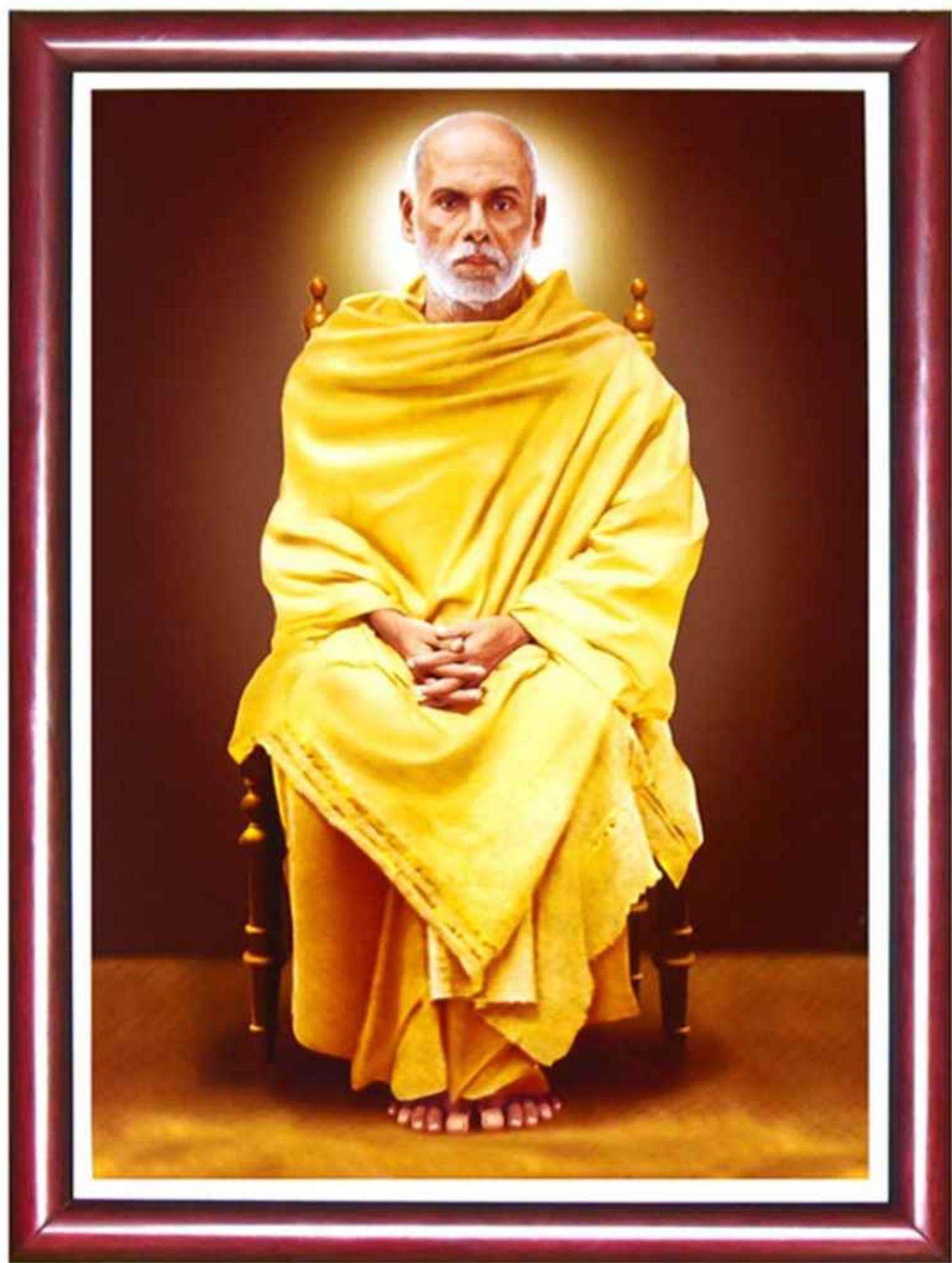# TECHSTIA

A MAGAZINE OF DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

THE WRANGLE OF TECHNOPHILES

SRI VELLAPPALLY NATESAN COLLEGE OF ENGINEERING

"Become enlightened, through Education."
- Sree Narayana Guru

SRI VELLAPPALLY NATESAN COLLEGE OF ENGINEERING

Approved by AICTE & Affilated to APJ Abdul Kalam Technolofical University

An ISO 9001-2008 certified Institution. Accredited by NAAC with B+ Grade

ABOUT THE DEPARTMENT

We, the students and faculty of Computer Science comprise of the biggest department on campus. Striving toward creating an excellent ambience for budding engineers, coders, most importantly, innovators. We are driven forward by self-motivated goals. New ideas, research and scholarship flourish in our laboratories. This is just the right place for leaders and innovators of tomorrow to emerge! The Computer Science and Engineering department strives towards building progress that not only concentrate on logic and design, but also in inculcating soft skills such as team-work, leadership and self-confidence. The programs intend to train students in advanced core courses that have been the foundation of our field, as well as emerging technology that are being used in latest revolutionary concepts, such as Artificial Intelligence, Virtual Reality, and so on.

DEPARTMENT VISION

- To provide quality education, research and development with human values to mould globally competent and qualified computer science and engineering professionals with creative skills.

DEPARTMENT MISSION

- Provide the quality education through value added course, theory and practical session for developing creative and innovative problem solving skills.
- Promote learners in entrepreneurship activities, placement and higher studies.
- To inculcate ethical and professional values and encourage moral values of social commitment among students.

EDITORIAL PANEL

- **Neethu Krishna (Staff Editor)**
- **Iype John Mathews (Student Editor)**
- **Ritty Mariam John (Student Editor)**

Dear Students and Faculty Members,

It gives me immense pleasure to welcome you all to the latest edition of our departmental magazine, Techstia. As always, we have a collection of exciting articles, insightful research papers, and thought-provoking interviews that reflect the passion and dedication of our Computer Science department. Over the past year, our department has achieved significant milestones in teaching, research, and community engagement. Our faculty members have continued to demonstrate their expertise in their respective fields through publications in reputed journals and conference proceedings. They have also received accolades and awards for their contributions to the computer science community.

Our students have also made us proud by participating in various national and international coding competitions, hackathons, and programming challenges. They have demonstrated their skills in problem-solving, programming, and innovation, which are essential for success in the computer science industry.Our department remains committed to providing high-quality education and research opportunities to our students and faculty members. We have adopted innovative teaching methods, such as online learning, virtual labs, and peer-to-peer learning, to ensure that our students receive a rigorous and engaging learning experience. In conclusion, I would like to thank the editorial team of Techstia for their hard work and dedication in bringing out this magazine. I hope that you will enjoy reading the articles and papers and gain valuable insights into the exciting world of computer science. I wish all of you the very best for your future endeavors.

DR. H. GANESH
PRINCIPAL

Dear Students and Faculty Members,

This marks a significant milestone for our institution, as we continue to expand our academic offerings and provide opportunities for our students to excel in the field of computer science. The CSE program will provide students with a strong foundation in both theoretical and practical computer science, and will prepare them for a wide range of careers in the industry.

The ceremony will feature speeches from esteemed members of the computer science community, as well as a keynote address from a leading figure in the field. We will also have a ribbon-cutting ceremony to officially open the new CSE lab.

I encourage all members of the campus community to attend this historic event, and to take part in the celebration of this new and exciting program.

DR. K. JACOB
ACADEMIC DEAN

Dear Students and Faculty Members,

       I am happy that the Department of Computer Science and Engineering is releasing its Magazine for the academic year 2019–2020 enumerating the various activities and achievements of our students. The Department of CSE started its journey of UG program B.Tech (CSE) in the year 2009 with an intake of 60. The department has well equipped labs with the state of art software, hardware and machineries. The Department goal is to provide students with a balance of intellectual and practical experiences that enable them to serve a variety of societal needs. In the department, students are nurtured to become best Software Professionals or Team Leaders in Industry or become Entrepreneurs in their own innovative way. Faculty also teach the students to work in teams, share their ideas, present, improve communication skills and join creative teams that make a positive difference.

       The Magazine is a new academic venture to encourage students and respective faculty members and indulge them in academic friendly and institutionally approved activities. The editorial team has worked hard for bringing out this newsletter. I congratulate and appreciate them for their effort.

SUMA S G
HOD

MESSAGE FROM THE STAFF EDITOR

Dear Readers,

We are thrilled to present the latest edition of our magazine, filled with a wide array of thought-provoking articles and features. Our team of talented writers, editors, and designers have worked tirelessly to bring you a magazine that is both informative and entertaining.

In this issue, we explore a range of topics, from the latest trends in technology and business to insights on health and wellness, travel, and culture.

We hope that you will find this issue engaging and insightful, and that it will spark new ideas and perspectives on the world around us. As always, we welcome your feedback and suggestions, and we look forward to bringing you more quality content in the future.

Thank you for your continued support and interest in our magazine.

NEETHU KRISHNA
STAFF EDITOR

MESSAGE FROM THE CHIEF EDITOR

Dear readers,

I am excited to present the latest edition of Techstia, the magazine for the Department of Computer Science. As the Chief Editor, I am proud to say that this issue is packed with valuable insights and knowledge from experts in the field. In this edition, we delve into the latest trends in the world of Computer Science, exploring cutting-edge technologies and techniques that are shaping the way we interact with our digital environment. Our contributors have provided in-depth analysis on a variety of topics, from machine learning and artificial intelligence to cybersecurity and blockchain. One of the standout articles in this edition focuses on the impact of machine learning on the field ofmedicine. The author examines how machine learning algorithms are being used to diagnose diseases, predict patient outcomes, and even develop new treatments. This is just one example of the exciting ways in which technology is transforming the healthcare industry.

In another article, we explore the growing importance of cybersecurity in the digital age. As more and more of our lives move online, protecting our personal information and online identities has become a top priority. The author provides valuable insights into the latest threats facing businesses and individuals, and offers practical tips for staying safe online. Whether you are a student, a professional, or simply someone who is interested in technology, there is something for everyone in this edition of Techstia.

I would like to thank all of our contributors for their hard work and dedication in putting together this fantastic edition of Techstia. I hope that you find this issue both informative and engaging, and I look forward to hearing your feedback.

IYPE JOHN MATHEW
CHIEF EDITOR

MESSAGE FROM ASSOCIATIVE EDITOR

Dear readers,

As the Associate Editor of Techstia, the department magazine of Computer Science and Engineering, I am delighted to share some exciting news with you.
Over the past few years, the field of computer science and engineering has been rapidly evolving and transforming the way we live our lives. With the increasing reliance on technology in various industries, the need for skilled professionals in the field is at an all-time high. At Techstia, we strive to provide our readers with the latest insights and developments in the field of computer science and engineering. Our magazine is dedicated to exploring the intersection oftechnology, innovation, and creativity, and we are committed to showcasing the groundbreaking work of researchers, practitioners, and students in the field.

In the upcoming issues of Techstia, we will be featuring articles on a wide range of topics, including machine learning, artificial intelligence, cybersecurity, and much more.
We are committed to providing our readers with the highest quality content, and we welcome contributions from our community of researchers, students, and practitioners in the field of computer science and engineering.
As we continue to evolve and adapt to the changing landscape of technology, we are excited to share our journey with you. We invite you to join us in exploring the limitless possibilities of the field and to stay tuned for the exciting developments ahead.

RITTY MARIAM JOHN
ASSOCIATIVE EDITOR

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Literature

Let me fly

Just leave me alone

I wanna fly as high as possible

Don't bind me with chains

Let me live my life

The way I want

Don't chase me

I'm not your pet whom you can put in a cage

Set me free

I just wanna make myself free from all

thoughts about you that binds me

Let me breathe

Give me all the freedom that I need

"SEE HOW I SOAR THROUGH THE SKY WITH

MY OWN WINGS BY MY SIDE"

Aishwarya S

S8

Memory Lane

Walking down the Lane
I saw stale crumbs of time
Shattered across the street...
A few embraced me with their warmth
And bought a smile to my face
While a few pelted stones
That gushed down through my veins
Walking downthe lane is like
A flip of a coin,
You either get the warmth or the stones!

Life to lines!

The kid with the
bleeding gums,
pulled his mother's saree
for a toy car..
His mother, happy to buy it..
A compensation for his broken
tooth..
Where the skinny pleading hands of
a slum boy
was purposefully ignored!

Ajesh P
S8

TENSION

Tension tension what a botheration
Children have tension
During their examination
Ministers have tension
When there is a election
Cops have tension
When the thieves are in actions
Tension tension what a botheration
Elders have tension
While get their monthly pension
Parents have tension
While getting their child's admission
Nature has tension
When there is a pollution
Teachers have tension
While completing their portion
Tension tension what a botheration

Akhila S Kumar
S4

And then she realized that nothing was permanent

It was a sombre evening. Little Ananya sat on her bed, crying silently. Tears rolled down her cheek, like a Brook in a desert. She wiped the tears gently off her face and hugged her pillow tight.

The room was dark, with yellow light, under the large white door, desperately trying to force it's way in to rescue the little girl. Their efforts succeeded when the door finally opened.In the doorway, stood an old woman. She had grey hair that was tied in a bun, horn rimmed glasses that lay on her cartoonishly large blunt nose. She had a full brown outline and a spherical figure that was highlighted by the light behind her.

"Ananya?", Called out the old lady.
"Are you here?"
"Leave me alone!" Roared Ananya.
"I want to be alone!"
"Listen child, these things happen. Cats don't live that long.."
"It's not fair! I'm a good girl! Why was my little kitty taken from me?" Said Ananya, in a low, broken voice.
Grandma switched on the lights, pulled a chairclose to Ananya's bed, and sat down.
"You see my child, these things happen.All we can do as death takes away our loved ones, is live." Said Grandma,in a warm, honey like voice.
"But why Grandma?" Replied Ananya, as tears rolled down her eyes. "Why does death take away what we love?
It's not fair!"
Grandma leaned forward, cupped Ananya's face
in her palms, and wiped her tears off. Grandma paused for a moment, and then said, "because my child, life and death are in love."
"What?"
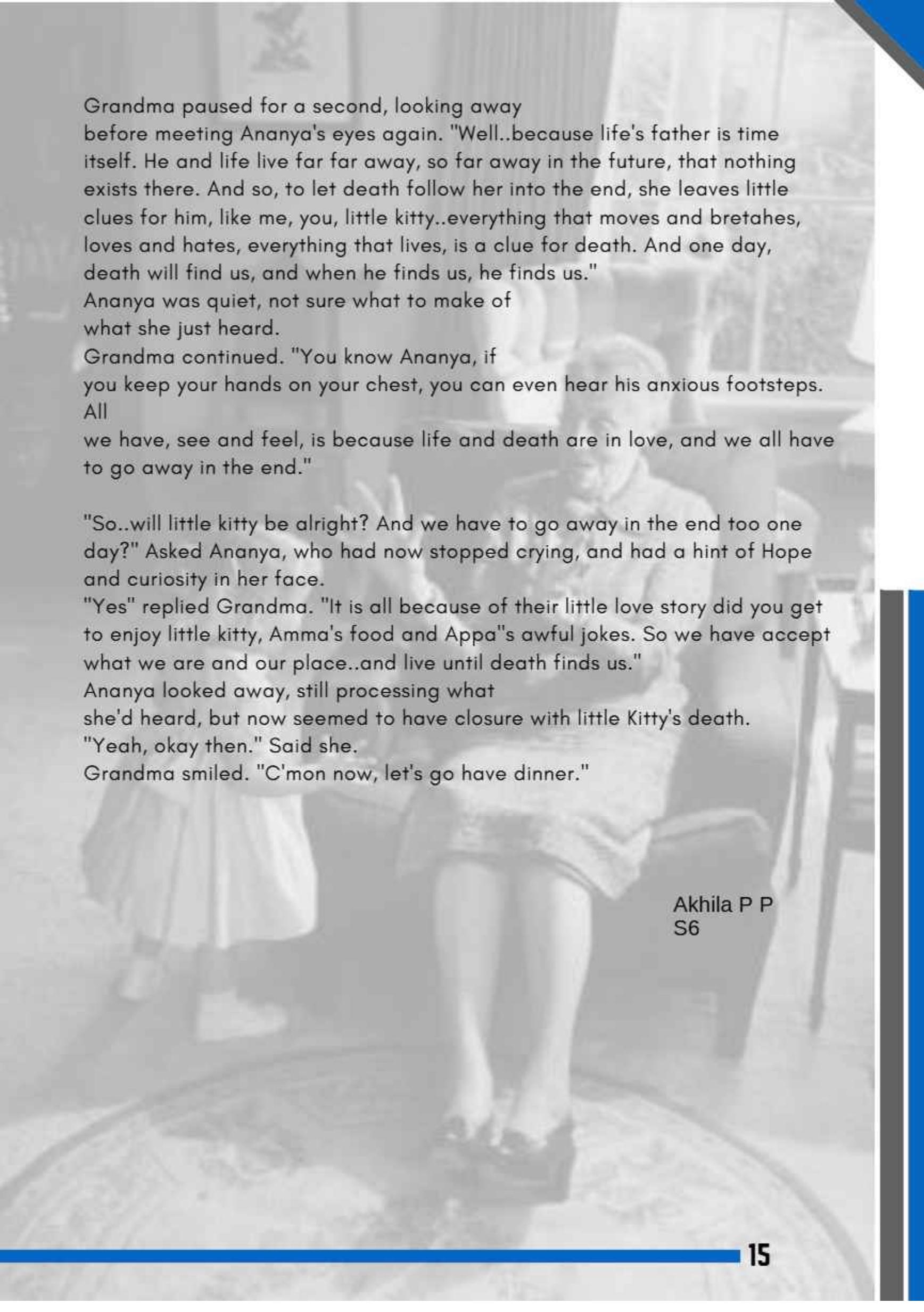"Yes, life and death are in love."
"But..w-what?" Asked a perplexed Ananya.
"Well you see, since the oldest of times,since it all began" started Grandma, "death has been constantly trying to hold on to life tightly, but he fails all the same, Everytime he thinks he has her in his arms, she slips away."
"But why does life keep running away?"
Asked a confused Ananya.

Grandma paused for a second, looking away
before meeting Ananya's eyes again. "Well..because life's father is time itself. He and life live far far away, so far away in the future, that nothing exists there. And so, to let death follow her into the end, she leaves little clues for him, like me, you, little kitty..everything that moves and bretahes, loves and hates, everything that lives, is a clue for death. And one day, death will find us, and when he finds us, he finds us."
Ananya was quiet, not sure what to make of
what she just heard.
Grandma continued. "You know Ananya, if
you keep your hands on your chest, you can even hear his anxious footsteps. All
we have, see and feel, is because life and death are in love, and we all have to go away in the end."

"So..will little kitty be alright? And we have to go away in the end too one day?" Asked Ananya, who had now stopped crying, and had a hint of Hope and curiosity in her face.
"Yes" replied Grandma. "It is all because of their little love story did you get to enjoy little kitty, Amma's food and Appa"s awful jokes. So we have accept what we are and our place..and live until death finds us."
Ananya looked away, still processing what
she'd heard, but now seemed to have closure with little Kitty's death.
"Yeah, okay then." Said she.
Grandma smiled. "C'mon now, let's go have dinner."

Akhila P P
S6

15

Passion that Refused to Die

She has always held a liking for it; swaying hands and making gentle movements with her legs , holding her body in great poise, effortlessly, with changing notes of music, was for what Ishani would give up everything she possessed. She indeed had a great passion for dance since childhood.

Anyone watching her perform would undoubtedly say that Ishani was a born dancer. Right from the age of nine, she had begun her training in the classical form from a renowned dancer. She had been giving out numerous dance performances and also had won a sea of awards which now find home in her Achievements Shelf. Dancing felt like a stress buster. Despite possessing the talent anyone of her age could not fathom, she gave up the training at fifteen owing to the burden of higher studies.

Thirteen years later, one evening, sitting beneath a tree and resting her back on its huge trunk, Ishani was lost in her thoughts. Every breath she has been breathing over the last thirteen years exhaled only regret. Never in her wildest dreams had she thought she would miss dancing to this extent. When she gave it up, it did not seem important to her; not as important as the journey she would need to conquer to emerge as an engineer. Every time she saw the awards she had won, a nail would prick her heart. All her dance costumes were hidden beneath a pile of clothes that belonged to her younger self. Every inch of hers ached for the gentle gliding movements in the air.

The sky was dressed in its best attire she had ever seen to bid the Sun farewell. On the other side, there was the Moon, waiting to be noticed in the beautiful sky. Gazing at it, she realized that she was just like the Moon during sunset. The soul in her that loved the art of dance was waiting to be recognized. But, the only fetters that held her back were she, thirteen years ago.

Just as suddenly, everything seemed to brighten up and fall into place. The wild flowers at the base of the tree were smiling brightly and radiantly as ever. The water in the lake, reflecting different colours from the sky above, flowed at a normal pace, yet there was something soothing about it. It was blissful watching the birds fly above in the sky. She had never let herself fly; she had never given herself wings for the flight.

Smiling at the air, Ishani traced back her footsteps towards home. Drawing out her costumes and placing them on the desk, she ran her reminiscent fingers over them. She had made up her mind, she was going to chase her dreams and she would not pay heed to anyone who tried to stop her, not even herself.

Arjun R
S8

Crumbles

As I prepare to unwind after a day's long struggle to conclude the plain nuisance of daily routine beyond my doorstep, something in me triggers utter stillness and coldness. See here's the thing, I don't like, or rather, I fear being confronted by the chemical reactions that are created in my very own head. One could never realize the world of power this abstract idea called 'thoughts' could hold.

Layered by layers of pretense, aren't we all burdened by heavy trunks of 'packaged' fears, well nurtured and adorned by the bygones of yesterday, within us? I'd hesitate to admit that I fear my thoughts. Perhaps, I'd even hesitate to admit that I hesitate to do so.

If thoughts hold powers to build mountains, I believe they even hold powers to crumble that very mountain down. It is the latter that scares me. Walled by negativity from all sides since I last remember, I suppose sucking out every drop of light has become a part of me. How do I go beyond this human frame and attain what I've forever romanticized….peace of mind. Maybe you could lend a hand?

Arya Kunjumon
S6

ഉടുപ്പ്

നിഴലുടുപ്പിട്ട, നങ്ങാതെ കണ്ണിമ
വെട്ടാതെ സിന്ധൂര പ്പൊട്ട്
മായുന്നതും
ഉപ്പ് ചുരണ്ടിരു ളുടുപ്പുരിഞ്ഞതും
കണ്ട,നങ്ങാതെന്നും കരിപ്രതിമ
ഞാൻ

Bhavana S
S6

സ്ത്രീ

നക്ഷത്രപ്പെട്ടു പുടവയും അമ്പിളി
തിലകവും
മിന്നാമിന്നി പൂമാലയുമായി
ആകാശം ആമ്പൽ
ആളികളോടോത്തു
പൊൻ പുലരിയ്ക്കായി
കാത്തിരുന്നു. നാണത്താൽ
ചോന്നു തുടുത്തു
ചെല്ല പൂങ്കാറ്റിനോടോത്തു
മന്ദമണഞ്ഞ പുലരിയുടെ
സീമന്തരേഖയിൽ
സൂര്യതിലകം ചാർത്തി
ആകാശമവളെ സുമംഗലിയാക്കി

Aswathy Suresh
S6

അമ്മ

അമ്മയാണ് സത്യം അമ്മ തന്നെ
സ്നേഹം അമ്മയാണ്
കൺമുന്നിൽ കാണുന്ന ദൈവം
ദൈവത്തിനെന്തെല്ലാം
നന്മകളുണ്ടോ
അവയെല്ലാം ഈ മണ്ണിൽ
അമ്മയിൽ മാത്രം

Krishnapriya
S8

മാതൃത്വം

മാതൃവാത്സല്യം തുളുമ്പുന്ന ജനനി മൺമറഞ്ഞു
സരോവർ, മാനസ. തുളസിക്കതിരിന്റെ നൈർമല്യം
ബാക്കിവെച്ചു വിടയായ് പഥിക, യേകാന്ത വീഥിയിൽ.
കൂപ്പുകൈയ്യുമായ് വന്ദനം ചെയ്തു കൈരളി,
ആർപ്പുവിളിയില്ലാതെ പാരം തേ ചിരം വിരാജിച്ചു. സദാ
മുദാ സ്നേഹാമൃത രസം തൂകി, മലയാണ്മ മുകർന്നു മധു
നിഷ്യന്തികൾ
അമ്മയായ്, കുടുംബിനിയായ്, ധർമ്മാർത്ഥ സൂനുവായ്,
നിൻ മനം പാരിൽ ലസിച്ചു. മഹിത ജന്മം കൃതാർത്ഥമായ്.
സൂന്യതസ്വരൂപമായ് മാമകം തൊട്ടറിഞ്ഞു. ചുറ്റിലും
പൊടിഞ്ഞു പ്രഭാങ്കുരം, ഉദ്ദീപ്തമായ കാവ്യതല്ലജം!
മാതുലൻ നൽകിയ യാനം കരേറി കവിതാ
കാമിനിക്കേകി കാവ്യാഞ്ജലി ഊഞ്ഞാലാട്ടി നമ്മെ താര
സീമകൾ കാണിച്ചു തന്നു തേ കാവ്യ കല്ലോലിനി!
പിന്നെ, കളിക്കൊട്ട് നിരത്തി നമ്മോടൊത്തു കളിച്ചു
ചിരകാലം. ഉണ്ടതിൽപ്പിലെ സാധനം, നാം സദാ കണ്ടു
പോന്നതും പണ്ടു കാണാത്തതും.
മൂല്യ ബോധത്തിന്റെ മരുപ്പച്ചയേകി കാലാതി
വർത്തിയായ് നിലകൊൾവൂ, അക്കവിതകൾ. ഒരിളം
തെന്നലായ്, സാന്ത്വന വചസ്സുമായ് മൂകം പകരുന്നു
ജീവൽ ദർശനങ്ങൾ, വഴികാട്ടികൾ,

Devu J
S6

വേനൽ മഴ

വേനലിലമരുന്ന മലർകാലത്തിലെന്റെ
ആശകളൊന്നൊന്നായി വാടിവീണലിയവേ, ഒരു തുള്ളി
നീരിനായി കേഴുന്ന വേഴാമ്പലായ് ഇനിയുമണയാത്ത
കുളിരു കാക്കുന്നു ഞാൻ.
ഗാർഗ്ഗി തൻ ചോദ്യങ്ങളെ
മാറാല മൂടുന്നതും...
ഏകലവ്യന്റെ വിരൽ
ചിതലു തിന്നുന്നതും...
"അരുതേ കാട്ടാളാ... എന്നോതുന്ന വാത്മീകിയെ
അരങ്ങിൽ നിഷാദനങ്ങ അങ്ങനെയൊടുങ്ങാത്ത
പേക്കിനാവുകളെന്റെ ഉറക്കം മുറിക്കുന്നൊ
രഗ്നിയായ് പടരുന്നു...
നിള തന്നുറവകൾ വറ്റുന്നു... കുളിരോലുമിളം
കാറ്റൊടുങ്ങുന്നു... രാത്രിയാകുന്നു സഖീ... നീയെൻ കൈ
പിടിക്കുക... നീണ്ടുനീണ്ടനന്തമാം യാത്രകളെത്രയോ
ബാക്കിയാവുന്നു നമുക്കിനി...
കനൽക്കാറ്റുകളാഞ്ഞു വീശുമീ മണൽക്കാട്ടിൽ ഒറ്റപ്പെട്ടു
നാം ദിശ തെറ്റിയങ്ങലയവേ... നെഞ്ചകം കുളിർപ്പിക്കാൻ
മഴ വന്നണഞ്ഞെങ്കിൽ.

Iype John Mathew
S8

സ്വപ്നം

സ്വപ്നങ്ങളുടെ ഭാണ്ഡക്കെട്ടഴിച്ചപ്പോൾ, എനിക്കൊരു പൊൻതൂവൽ കൈയ്യിലുടക്കി; എന്നോ നെയ്ത് കൂട്ടിയ സ്വപ്നം ഇന്നുമൊരു പൊൻതൂവലായി, പ്രഭ ചൊരിയാതെ നിലകൊള്ളുന്നു. സ്വപ്നമേ! നിന്നെയാരും കാണാതെ; ആ ഭാണ്ഡക്കെട്ടിനുള്ളിൽ വീണ്ടുമൊളിപ്പിച്ചോട്ടേ? ഇനിയുമതേ പ്രൗഢിയിൽ നിലനിൽക്കാൻ.

Lekshmi A
S4

ആത്മാവ്

പനിനീർ ദളം പോലെ മൃദുവായ ചുണ്ടുകൾ നീണ്ടു
വിടർന്ന കണ്ണുകളോടു ചോദിച്ചു നീയെന്തേ നിറയാത്തു
നീയെന്തേ തുളുമ്പാത്തൂ എന്തേ പെയ്തൊഴിയാത്തു ഒരു
കടലുണ്ടല്ലോ കരഞ്ഞു തീർക്കാൻ പെയ്തൊഴിയൂ മനസ്
ശാന്തമാകട്ടെ മിഴികൾ മെല്ലെ മൊഴിഞ്ഞു ഞാൻ
പെയ്തുവെന്നാൽ നിനക്ക് വിതുമ്പാതിരിക്കാനാവില്ല
തേങ്ങി തേങ്ങി തളരാതിരിക്കാനാവില്ല അലറി
കരയാതിരിക്കാനാവില്ല എനിക്കതു കാണാൻ വയ്യ നിന്റെ
പുഞ്ചിരിയിലാണെന്റെ ശാന്തത

Surya S
S4

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DAD- A SUPER POWER

Hey there! You who's reading this, I'm sure by the end of this article you'll be proud to have(d) a person in your life whom you call 'Dad'.

We are teenagers, such teenagers who consider friends as family. Many of us have friends as our first priority. Sometimes, We even neglect our parents for our friends.We are friend-centered; we trust our friends more than even our parents. At many a times, this is the mistake we do.

This is wrong!

Mom calls you "Dear, come home quickly", And you yell at her that she is irritating you. You say her that you'll reach in a few minutes; yet you reach after hours.

Dad calls you, you get goosebumps; don't you? You do. Butyou back answer him. You disrespect him (at times). Look at him, his beard is turning grey. He is aging. Ever imagined your life without him?

He asks you to do some work and you look at him as if you are least bothered. You disobey him. He does so much for you, what do you do for him?

Nothing. He has sacrificed his sleep, his dreams, most
parts of his life just to make you happy.

You were sick, hewent out in the winter night to fetch medicines for you. He gave up his sleep tocomplete your homework. He left his office work to come to your school to attend meetings.

He gave up his hobbies to give you quality time.He quit
his bad habits to show you the right way. Now what do you do? Smoke? drink? Abuse? He gave up his comfort
to give you luxuries. He drove you, not just to school but even in the path of life. He washed, not just the dirt on your clothes but even the dirt in your character. He wiped, not just the windshields of his car but even your tears.your life. He did over time in office, To earn more money? No. To earn more smiles on your face. We spend a lot of money daily. We don't know it's value.Ask your dad, what was his first salary and how hard it was for him to earn it.I bet he would say his first salary- an amount that you would spend and devastewithin a week.

Our demands are increasing as time's proceeding. Our friends have some cool yet expensive stuffs, even we need that. Most of our parents can't afford it, yet we force them to buy us that thing. Ever imagined what he feels? How much he suffers? Ever seen him cry? Maybe not. Because he wouldn't let his tears weaken you.I hate myself for not loving my dad before someone.

They say 'God couldn't be present everywhere to help us,so he sent a person into our life named 'Dad'. True, indeed.If there is someone who should be worshipped after god,it's dad.I remember once my dad had held me over his shoulders and danced to stop my tears. I remember the days he spent with me travelling to various places in my vacations. I remember that my dad had taken leaves to take me on trips. I remember that when every friend of mine had their parents beside them during meetings, my dad wasn't there. I was sad, I had cried. I was angry at my dad. I came home, I yelled at him. But was not matured enough to think how busy he was.

He tried to give me maximum time, many a times he failed.But he had tried! And he is still trying.. He warned me when I was heading in the wrong way, while he even encouraged me when I was on the right track. He taught me the lessons of life. He distinguished between good and bad, Indeed he is the world's best dad. He came, he loved, he cared and he is the only one who stayed.

In this age, we fall in love. We get into "relationships". And during all this, we neglect and ignore our parents.

Go and talk to him, he will feel very much better. You ignore him, you back answer him, hell remain silent; but from within he will lose hopes in you, he will lose hopes in his life..

You may not be capable of doing something great for him.But just a warm convo with him, will make his day and your's too. Let go of your ego, go and spend time with him. Because one day when you realize his role in your life, it maybe too late. When you want to see him later, he may not be there to give you a glance.

I regret wasting so many years without spending much of time with him. I regret wasting my time on social media, and ignoring him.

I remember that once my dad even fought with fate to change my future. I will always remember that my dad had once changed the destiny for me..

And I'll always be guilty that I made him bow to someone in shame due to my mistakes. In the list of all my sins, I would see my greatest sin to be that I'd made my dad shed tears.

Love your dad more than anything; because one day when you really need help, the whole world would step back but your dad will step ahead and help you. He wouldn't think of himself for even a second and do what's best for you.If there's someone who can fight both devil and god for you, it's Dad. Happiness is seeing him smile, Sadness is seeing him age. Pray to God, not for love, not for money, but For the well being and long living of your dad. He was selfless for you, why not you be selfless for him; at least in your prayers. About dad, there's a hell lot of stuffs to speak, butI've to conclude my article.

When a question about the super powers of the world would be asked, people would name the nuclear nations of the world like the US, Russia, China, etc. But no one would have the courtesy to mention a person called 'Dad'

Thanks Dad for all that you've done and will be doing for me ❤ love you ❤

Sreelekshmi L
S6

Articles

IOsH (Internet of Smart Health)

Shruthidharan S
S8

Internet of Things (IoT) is an ecosystem of connected physical objects that are accessible through the internet. When devices/objects can represent themselves digitally, they can be controlled from anywhere. The connectivity then helps us capture more data from more places, ensuring more ways of increasing efficiency and improving safety and IoT security.

Internet of Things is transforming the healthcare industry completely by redefining how apps, devices and people interact and connect with each other in delivering healthcare solutions. That is, IoT is constantly offering new tools as well as efficiencies that make up an integrated healthcare system with the view of ensuring patients are cared for better, health care costs are reduced significantly and treatment outcomes are improved.

Advantages of smart health:

The major advantages of the Internet of Things in that healthcare organizations can take advantage of including the following:

Decreased Costs: Patient monitoring can be done on a real-time basis, thus significantly cutting down on unnecessary visits by doctors, hospital stays and re-admissions.

Improved Outcomes of Treatment: Connectivity of health care solutions through cloud computing or other virtual infrastructure gives caregivers the ability to access real time information that enables them to make informed decisions as well as offer treatment that is evidence based.

Disease Management: When patients are monitored on a continuous basis and health care providers by accessing real time data, diseases are treated before they get out of hand. Reduced Errors: Accurate collection of data, automated workflows combined with data driven decisions are an excellent way of cutting down on waste, reducing system costs and most importantly minimizing on errors.

Enhanced Patient Experience: The connectivity of the health care system through the internet of things, places emphasis on the needs of the patient like proactive treatments, improved accuracy when it comes to diagnosis, timely intervention by physicians and enhanced treatment outcomes result in accountable care that is highly trusted among patients.

Enhanced Management of Drugs: Creation as well as management of drugs is a major expense in the healthcare industry. Even then, with IoT processes and devices, it is possible to manage these costs better.

Early intervention. Healthy, active people can also get benefited by IoT-driven monitoring their daily activities for well-being. A senior living alone, for example, may want to have a monitoring device that can help to detect a fall or other interruption in blood pressure, blood sugar levels etc. in everyday activity and report it to any immediate responders or family members. For that matter, an active athlete such as a hiker or biker can obtain benefit from such a solution at any age, particularly if it's available as a piece of wearable technology.

Risks of network connected healthcare devices:

- Healthcare providers, whether hospitals, doctors' offices, or insurance companies, collect and maintain an enormous amount of data, which has to be carefully managed and protected. when a nurse or doctor is dealing with a patient's immediate health issue, IT policy is going to rank second to the care of the patient.

- Health Information Exchanges (HIEs), where healthcare information is exchanged electronically across organizations within a region, community, or hospital system, is intended to help healthcare providers have access to important patient information – but again, simply through the exchange of information, such networks put that information at risk.

- As part of the digital evolution, patients now want to communicate with their healthcare providers via email, which is notoriously one of the riskiest activities on the Internet.

- Mobile apps and websites have begun to play a large part in doctor-patient interactions. Apps

provide convenient ways for healthcare providers and patients to exchange information and engage with each other. But speed and convenience come at a cost: attacks on mobile devices are increasing, and these apps are very hackable. Potentially, they can introduce a door into an organization's networks and systems, risking data theft, loss, or tampering. According to Arsan's State of Mobile App Security, 90% of Android Healthcare/Medical apps have been hacked, 22% of which are FDA approved.

- Digital patient profiles are becoming more widespread – profiles which, if stolen, can provide cybercriminals with a huge payday.

- More and more healthcare information is stored or is passed through the cloud at some point in its lifecycle. While the cloud can offer a great deal of security, because cloud service providers must be able to offer a secure environment, a lack of attention to that issue in the cloud can increase rather than decrease vulnerability.

Applications of Internet of Things

Malavika M
S4

SMART HOME:

Smart Home clearly stands out, ranking as highest Internet of Things application on all measured channels. More than 60,000 people currently search for the term "Smart Home" each month. This is not a surprise. The IoT Analytics company database for Smart Home includes 256 companies and start-ups. More companies are active in smart home than any other application in the field of IoT. The total amount of funding for Smart Home start-ups currently exceeds $2.5bn. This list includes prominent start up names such as Nest or Alert Me as well as a number of multinational corporations like Philips, Haier, or Belkin.

WE A R AB LES

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Wearables remains a hot topic too. As consumers await the release of Apple's new smart watch in April 2015, there are plenty of other wearable innovations to be excited about: like the Sony Smart B Trainer, the MYO gesture control, or Looksee bracelet. Of all the IoT start-ups, wearables maker Jawbone is

Smart city spans a wide variety of use cases, from traffic management to water distribution, to waste management, urban security and environmental monitoring. Its popularity is fuelled by the fact that many Smart City solutions promise to alleviate real pains of people living in cities these days. IoT solutions in the area of Smart City solve traffic congestion problems, reduce noise and pollution and help make cities safer.

SMART GRIDS:

Smart grids are a special one. A future smart grid promises to use information about the behaviours of electricity suppliers and consumers in an automated fashion to improve the efficiency, reliability, and economics of electricity. 41,000 monthly Google searches highlights the concept's popularity. However, the lack of tweets (Just 100 per month) shows that people don't have much to say about it.

INDUSTRIAL INTERNET:

The industrial internet is also one of the special Internet of Things applications. While many market researches such as Gartner or Cisco see the industrial internet as the IoT concept with the highest overall potential, its popularity currently doesn't reach the masses like smart home or wearables do. The industrial internet however has a lot going for it. The industrial internet gets the biggest push of people

on Twitter (~1,700 tweets per month) compared to other non-consumer-oriented IoT concepts.

CONNECTED CARS:

The connected car is coming up slowly. Owing to the fact, that the development cycles in the automotive industry typically take 2-4 years, we haven't seen much buzz around the connected car yet. But it seems we are getting there. Most large auto makers as well as some brave start-ups are working on connected car solutions. And if the BMWs and Fords of this world don't present the next generation internet connected car soon, other well- known giants will: Google, Microsoft, and Apple have all announced connected car platforms.

CONNECTED HEALTH (DIGITAL HEALTH/TELEHEALTH/TELEMEDICINE)

Connected health remains the sleeping giant of the Internet of Things applications. The concept of a connected health care system and smart medical devices bears enormous potential (see our analysis of market segments), not just for companies also for the well-being of people in general. Yet, Connected Health has not reached the masses yet. Prominent use cases and large-scale start-up successes are still to be seen. Might 2015 bring the breakthrough?

SMART RETAIL:

Proximity-based advertising as a subset of smart retail is starting to take off. But the popularity ranking shows that it is still a niche segment. One LinkedIn post per month is nothing compared to 430 for smart home.

SMART SUPPLY CHAIN:

Supply chains have been getting smarter for some years already. Solutions for tracking goods while they are on the road, or getting suppliers to exchange inventory information have been on the market for years. So, while it is perfectly logic that the topic will get a new push with the Internet of Things, it seems that so far its popularity remains limited.

SMART FARMING:

Smart farming is an often, overlooked business-case for the internet of Things because it does not really fit into the well-known categories such as health, mobility, or industrial. However, due to the remoteness of farming operations and the large number of livestock that could be monitored the Internet of Things could revolutionize the way farmers work. But this idea has not yet reached large-scale attention. Nevertheless, one of the Internet of Things applications that should not be underestimated. Smart farming will become the important application field in the predominantly agricultural-product exporting countries.

WHAT NEXT?

We want to get a deeper understanding what makes these Internet of Things applications so popular and what exactly is it that people talk about and look for. That is why we will be starting a 10-piece blog series, highlighting what is going on in each of the 10 Internet of things applications.

Internet of Things

Sreelekshmi Satheesh
S6

The time is not that far when you are out of home and your computers at home contact you to let you Know that your medicines have expired or that the milk is over or you need more pepper. This isn't just a fantasy but soon to be a reality due to the amazing possibilities of "Internet of Things" (IOT).IoT is tagging our day-to-day objects with machine- readable identification tags. Sensors may be a couple with these tags to collect more information about the condition the everyday objects and those present around them. The same applies to various companies wherein the computers would keep track of the stock available and resources and maintain them to optimum levels, thus saving a lot of time and money. The IoT concept, hence, aims at making the Internet even more immersive and pervasive.

Smart devices or "Connected devices " as commonly called as, are designed in such a way that they capture and utilize every bit of data which you share or use in everyday life. And these devices will use this data to interact with you on daily basis and complete tasks. This new wave of connectivity is going beyond laptops and smartphones, it's going towards connected cars, smart homes, connected wearables, smart cities and connected healthcare. Basically a connected life. According to
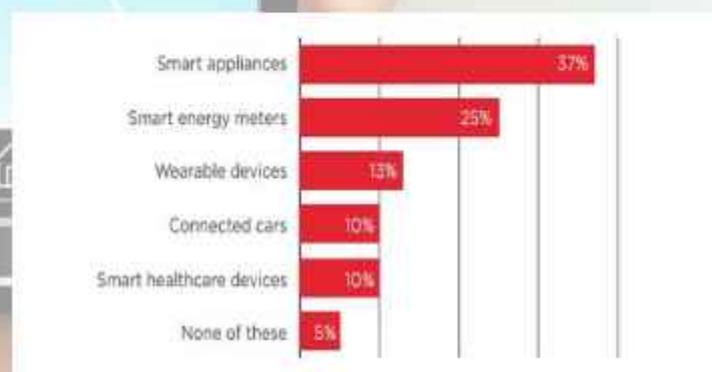
Real World Applications

:-

Gartner report, by 2020 connected devices across all technologies will reach to 20.6 billion.

These devices will bridge the gap between physical and digital world to improve the quality and productivity of life, society and industries. With IoT catching up Smart homes is the most awaited feature, with brands already getting into the competition with smart appliances. Wearables are another feature trending second on the internet. With launch of Apple Watch and more devices to flow in, these connected devices are going to keep us hooked with the inter-connected world.

A survey conducted by KRC Research in UK, US, Japan and Germany the early adopters of IOT has revealed which devices are the customers more likely to use in the coming years. Smart Appliances like thermostat, smart refrigerator to name a few are most liked by the customers and are seem to change the way we operate.

If you are wondering what impact will IoT have on the economy then for your information as per the Cisco report IoT will generate $14.4 trillion in value across all

Device	Percentage
Smart appliances	37%
Smart energy meters	25%
Wearable devices	13%
Connected cars	10%
Smart healthcare devices	10%
None of these	5%

industries in the next decade. Yes, you are thinking correctly IoT will bring a wave, nobody can forsee.

Smart Home: Wouldn't you love if you could switch on air conditioning before reaching home or switch off lights even

after you have left home? Or unlock the doors to friends for temporary access even when you are not at home. Don't be surprised with IOT taking shape companies are building products to make your life simpler and convenient. Smart Home has become the revolutionary ladder of success in the residential spaces and it is predicted Smart homes will become as common as smartphones. The cost of owning a house is the biggest expense in a homeowner's life. Smart Home products are promised to save time, energy and money. With Smart home companies like Nest, Ecobee, Ring and August, to name a few, will become household brands and are planning to deliver a never seen before experience.

Wearables: Wearables have experienced a explosive demand in markets all over the world. Companies like Google, Samsung have invested heavily in building such devices. Wearable devices are installed with sensors and software which collect data and information about the users. This data is later pre-processed to extract essential insights about user. These devices broadly cover fitness, health and entertainment requirements. The pre-requisite from internet of things technology for wearable applications is to be highly energy efficient or ultra-low power and small sized.

Smart Cities: Smart city is another powerful application of IoT generating curiosity among world's population. Smart surveillance, automated transportation, smarter energy management systems, water distribution, urban security and environmental monitoring all are examples of internet of things applications for smart cities. IOT will solve major problems faced by the people living in cities like pollution, traffic congestion and shortage of energy supplies etc. Products like cellular communication enabled Smart Belly trash will send alerts to municipal services when a bin needs to be emptied. By installing sensors and using web applications, citizens can find free available parking slots across the city. Also, the sensors can detect meter tampering issues, general malfunctions and any installation issues in the electricity system.

Advantages: Knowing what to get from the grocery while you are out, without having to check on your own, not only saves time but is convenient as well. The computers keep a track both on the quality and the viability of things at home. Knowing the expiration date of products before one consumes them improves safety and quality of life. Also, you will never run out of anything when you need it at the last moment. The financial aspect is the best advantage. This technology could replace humans who are in charge of monitoring and maintaining supplies.

Disadvantages: There are several opportunities for failure with complex systems. For example, both you and your spouse may receive messages that the milk is over and both of you may end up buying the same. That leaves you with double the quantity required. Or there is a software bug causing the printer to order ink multiple times when it requires a single cartridge. Privacy is a big issue with IoT. All the data must be encrypted so that data about your financial status is kept private. There is a chance that the software can be hacked and your personal information misused.. Hence, all the safety risks become the consumer's responsibility.

Although IoT has quite a few disadvantages, its advantages of saving the consumer time and money can't be ignored . So the time isn't far when the *"Internet Of Things will be commonly seen in both in household and companies"*.

ARTIFICIAL INTELLIGENCE IN AUTONOMOUS VEHICLES

Aparna Sreekumar
S6

Artificial Intelligence is the intelligence that is displayed by machines. AI can perform functions like learning, problem-solving and implementation in various fields. AI has an application in various fields like machine learning, natural language processing, robotics, medical diagnosis, computer vision, and planning. Autonomous vehicles are one of the greatest uses of AI. Autonomous vehicles are vehicles that are self-driven, driverless or robot-driven cars. It is a vehicle that can sense the environment around it and moves with no input or partial input by the human. These driverless cars combine a variety of sensors to understand and realize their surroundings. These sensors are sonar, odometer and inertial measuring units, radar and GPS (Global Positioning System). The autonomous vehicles become aware of the obstacles coming their way and also identify the suitable navigation paths. Though people think that self-drive cars are the future, there is still a no. of challenges in its way. These cars cannot recognize the presence of bicyclists and pedestrians on roads, as well as any animal which might appear on a road. AI will be used for speech recognition, eye tracking, the camera capturing, road condition evaluation, virtual assistance, and driver monitoring. The autonomous vehicles are provided with cognitive functions and logical as well as decision-making capabilities just like the human drivers possess so that they can adjust to any situation of traffic to avoid any accidents. These cars are provided with these sensors and other communication devices so that they can store this huge amount of data and AI enables them to analyze the way the car should drive. This data is processed by supercomputers and other data communication systems. The radars and cameras are used to generate the surrounding area, the traffic conditions and give all the valuable inputs to the autonomous driving cloud platform. There is an intelligent agent that makes use of AI algorithms to take meaningful and correct decisions. All the previous data is also stored which might help in making future decisions if any same condition is encountered. All the driving experiences are stored in the database so that safer and better experiences can be created for the users. Artificial Intelligence, especially the neural networks and deep learning are the key factors in the proper and safe functioning of the autonomous vehicles.

Fig. 6: AI controlled vehicle

# AZURE SPRING CLOUD: FULLY MANAGED SERVICE FOR SPRING BOOT MICROSERVICES

Arjun Lal
S6

As customers have moved their workloads to the cloud, we've seen a growth in the use of cloud- native architectures, particularly micro-services. Micro-service-based architectures help improve scalability and velocity but implementing them can pose challenges. For many Java developers, Spring Boot and Spring Cloud have helped address these challenges, providing a robust platform with well-established patterns for developing and operating micro-service applications. But creating and maintaining a Spring Cloud environment requires work, such as setting up the infrastructure for dynamic scaling, installing and managing multiple components, and wiring up the application to your logging infrastructure. To help make it simpler to deploy and operate Spring Cloud applications, together with Pivotal, Microsoft has created Azure Spring Cloud. Azure Spring Cloud is jointly built, operated, and supported by both Pivotal and Microsoft. This means that you can use Azure Spring Cloud for your most demanding applications and know that both Pivotal and Microsoft are standing behind the service to ensure your success. High productivity development Azure Spring Cloud abstracts away the complexity of infrastructure management and Spring Cloud middleware management, so you can focus on building your business logic and let Azure take care of dynamic scaling, security patches, compliance standards, and high availability. With a few clicks, you can provision an Azure Spring Cloud instance. After configuring a couple of dependencies in your pom file, your Spring Cloud app is automatically wired up with Spring Cloud Config Server and Service Registry. Furthermore, you can deploy and scale Spring Boot applications in seconds. Ease of monitoring With out-of-the-box support for aggregating logs, metrics, and distributed app traces into Azure Monitor, you can easily visualize how your applications are performing, detect and diagnose issues across micro-service applications and their dependencies, drill into monitoring data for troubleshooting and gain a better understanding of what end-users do with your apps.
Open-source innovation with Spring integrations Azure Spring Cloud sets up the compute foundation for cloud-native Spring applications. From there, Azure Spring Cloud makes it simple to connect to data services such as Azure SQL Database, MySQL, PostgreSQL, or Cosmos DB to enable enterprise-grade end-user authentication and authorization using Azure Active Directory, to bind cloud streams with Service Bus or Event Hubs, and to load and manage secrets with Azure Key Vault.

No Shortage of Machine Learning Talent

If you thought learning some machine learning models and making a few projects on data would be sufficient to land you a job in the financial sector then the report on —machine learning in financial services‖ from the Bank of England and Financial Conduct Authority (FCA) will come as a bit of a shock. The report is based on a survey of 106 banks and finance firms in London. It turns out that, yes, machine learning is being used in banks. But, no, it's not hard to find anyone to fill the roles and that this is the least of the worries as machine learning is rolled out across the finance sector. The Bank of England and FCA also asked survey respondents what their problems were in implementing machine learning solutions. As the chart below shows, a shortage of machine learning talent was not top of the list.

Instead, banks ranked machine learning talent shortages as a negligible constraint alongside the horror of maintaining old legacy systems. Other problems faced by investment capital firms are the lack of explain ability and insufficient data.
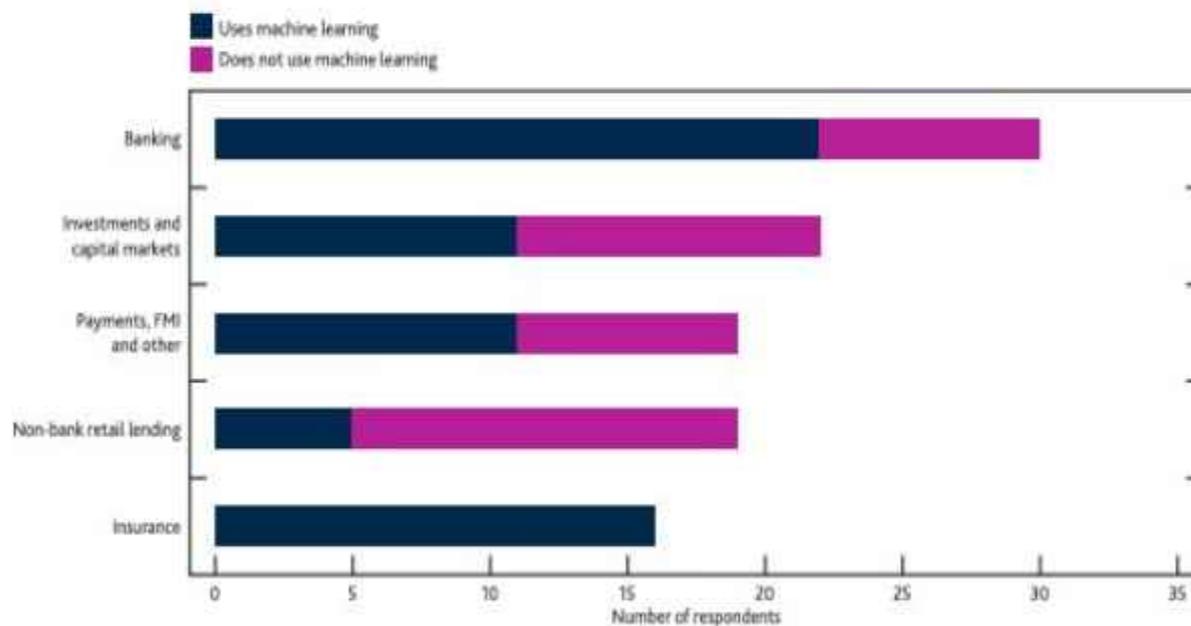
AUGMENTED REALITY AND VIRTUAL REALITY

Virtual reality (VR) is an artificial, computer-generated simulation or recreation of a real-life environment or situation. It immerses the user by making them feel like they are experiencing the simulated reality first-hand, primarily by stimulating their vision and hearing. VR is typically achieved by wearing a headset like Facebook's Oculus equipped with the technology, and is used prominently in two different ways: To create and enhance an imaginary reality for gaming, entertainment, and play (Such as video and computer games, or 3D movies, head-mounted display). To enhance training for real-life environments by creating a simulation of reality where people can practice beforehand (Such as flight simulators for pilots). Virtual reality is possible through a coding language known as VRML (Virtual Reality Modelling Language) which can be used to create a series of images, and specify what types of interactions are possible for them. Augmented reality (AR) is a technology that layers computer-generated enhancements atop an existing reality to make it more meaningful through the ability to interact with it. AR is developed into apps and used on mobile devices to blend digital components into the real world in such a way that they enhance one another, but can also be told apart easily. AR technology is quickly coming into the mainstream. It is used to display score overlays on telecasted sports games and pop out 3D emails, photos or text messages on mobile devices. Leaders of the tech industry are also using AR to do amazing and revolutionary things with holograms and motion-activated commands. Augmented reality and virtual reality are inverse reflections of one in another with what each technology seeks to accomplish and deliver for the user. Virtual reality offers a digital recreation of a real-life setting, while augmented reality delivers virtual elements as an overlay to the real world. Virtual is real now! VR and AR, the twin technologies that let you experience things in virtual, that are extremely close to real, are today being used by businesses of all sizes and shapes. But the underlying technology can be quite complex. Medical students use AR technology to practice surgery in a controlled environment. VR, on the other hand, opens up newer avenues for gamingVirtual reality (VR) is an artificial, computer-generated simulation or recreation of a real-life environment or situation. To enhance training for real-life environments by creating a simulation of reality where people can practice beforehand (Such as flight simulators for pilots). Virtual reality is possible through a coding language known as VRML (Virtual Reality Modelling Language) which can be used to create a series of images, and specify what types of interactions are possible for them. Augmented reality (AR) is a technology that layers computer-generated enhancements atop an existing reality to make it more meaningful through the ability to interact with it. AR is developed into apps and used on mobile devices to blend digital components into the real world in such a way that they enhance one another, but can also be told apart easily. AR technology is quickly coming into the mainstream. It is used to display score overlays on telecasted sports games and pop out 3D emails, photos or text messages on mobile devices. Leaders of the tech industry are also using AR to do amazing and revolutionary things with holograms and motion-activated commands. Augmented reality and virtual reality are inverse reflections of one in another with what each technology seeks to accomplish and deliver for the user. Virtual reality offers a digital recreation of a real-life setting, while augmented reality delivers virtual elements as an overlay to the real world. Virtual is real now! VR and AR, the twin technologies that let you experience things in virtual, that are extremely close to real, are today being used by businesses of all sizes and shapes. But the underlying technology can be quite complex. Medical students use AR technology to practice surgery in a controlled environment. VR, on the other hand, opens up newer avenues for gaming and interactive marketing. Both technologies are still in their emerging stages but hold immense promise for businesses even now. Moreover, an entrepreneur that enters the industry early improves the chances for success

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S6 CSE

Real-Time Drowsiness Detection

Introduction and Working Because of the hazard that drowsiness is present on the road, then methods need to be developed for counteracting its effects. This project aims to develop a prototype drowsiness detection system. The focus will be placed on designing a system that will accurately monitor the open or closed state of the driver's eyes in real-time. By monitoring the eyes, it is believed that the symptoms of driver fatigue can be detected early enough to avoid a car accident. Detection of fatigue involves the observation of eye movements and blink patterns in a sequence of images of a face-Driver fatigue is a significant factor in a large number of vehicle accidents. Recent statistics estimate that annually 1,200 deaths and 76,000 injuries can be attributed to fatigue-related crashes. First, the facial image is input using a webcam. Pre-processing was first performed by binarizing the image. The top and sides of the face were detected to narrow down the area where the eyes exist. Using the sides of the face, the center of the face was found which will be used as a reference when computing the left and right eyes. Moving down from the top of the face, horizontal averages of the face area were calculated. Large changes in the averages were used to define the eye area. There was little change in the horizontal average when the eyes were closed which was used to detect a blink. However, Matlab had some serious limitations. The processing capacities required by Matlab were very high. Also, there were some problems with speed in real-time processing. Matlab was capable of processing only 4-5 frames per second. On a system with a low RAM, this was even lower. As we all know an eye blink is a matter of milliseconds. Also a drivers head movements can be pretty fast. Though the Matlab program designed by us detected an eye blink, the performance was found severely wanting. This is where OpenCV came in. OpenCV is an open-source computer vision library. It is designed for computational efficiency and with a strong focus on real-time applications. It helps to build sophisticated vision applications quickly and easily. OpenCV satisfied the low processing power and high speed requirements of our application. We have used the Haar training applications in OpenCV to detect the face and eyes. The steps were as follows:- Working: Gather a data set of face and eye. These should be stored in one or more directories indexed by a text file. A lot of high quality data is required for the classifier to work well. The utility application creates samples() is used to build a vector output file. Using this file we can repeat the training procedure. It extracts the positive samples from images before normalizing and resizing to specified width and height. The Viola-Jones cascade decides whether or not the object in an image is similar to the training set. Any image that doesn't contain the object of interest can be turned into negative sample. So in order to learn any object it is required to take a sample of negative background image. All these negative images are put in one file and then it's indexed. Training of the image is done using boosting. In training we learn the group of classifiers one at a time. Each classifier in the group is a weak classifier. These weak classifiers are typically composed of a single variable decision tree called stumps. Between training each classifier one by one, the data points are reweighted so that more attention is paid to the data points where errors were made. This process continues until the total error over the dataset arising from the combined weighted vote of the decision trees falls below a certain threshold.
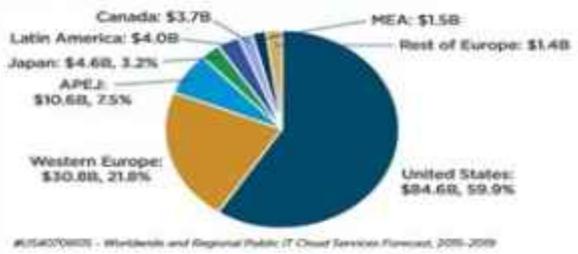
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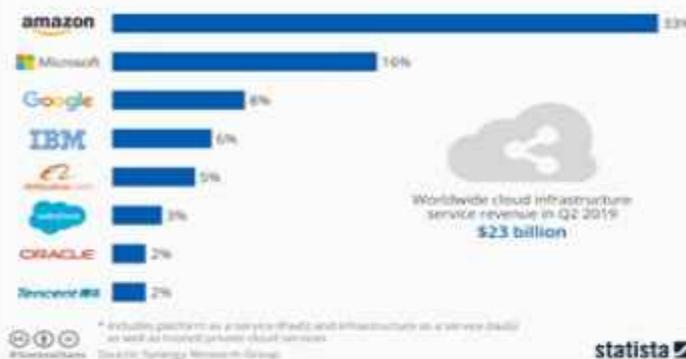
Amazon Elastic Block Store (EBS)

• Provides block level storage volumes (1 GB to 1 TB) for use with Amazon EC2 instances.
• Multiple volumes can be mounted to the same instance.
• EBS volumes are network-attached, and persist independently from the life
• Storage volumes behave like raw, unformatted block devices, allowing users to create a file system on top of Amazon EBS volumes, or use them in any other way you would use a block device (like a hard drive).
• EBS volumes are placed in a specific Availability Zone, and can then be attached to instances also in that same Availability Zone.
• Each storage volume is automatically replicated within the same Availability Zone.

Amazon Simple Storage Service (S3)

• Amazon S3 provides a simple web services interface that can be used to store and retrieve any amount of data, at any time, from anywhere on the web.
• Write, read, and delete objects containing from 1 byte to 5 terabytes of data each. The number of objects you can store is unlimited.
• Each object is stored in a bucket and retrieved via a unique, developer-assigned key.
• A bucket can be stored in one of several Regions.
• You can choose a Region to optimize for latency, minimize costs, or address regulatory requirements.
• Objects stored in a Region never leave the Region unless you transfer them out.

Amazon Virtual Private Cloud (VPC)

• Amazon VPC lets you provision a logically isolated section of the Amazon Web Services (AWS) Cloud.
• You have complete control over your virtual networking environment, including:
• selection of your own IP address range,
• creation of subnets, and
• configuration of route tables and network gateways.

• With Amazon EMR you can launch a persistent cluster that stays up indefinitely or a temporary cluster that terminates after the analysis is complete.
• Amazon EMR supports a variety of Amazon EC2 instance types and Amazon EC2 pricing options (On-Demand, Reserved, and Spot).Amazon Relational Database Service (RDS)
• Amazon RDS is a web service that makes it easy to set up, operate, and scale a relational database in the cloud.
• Amazon RDS automatically patches the database software and backs up the database, storing the backups for a user-defined retention period and enabling point-in-time recovery.
• Amazon RDS provides scaling the compute resources or storage capacity associated with the Database Instance.
• Pay only for the resources actually consumed, based on the DB Instance hours consumed,
database storage, backup storage, and data transfer.
• On-Demand DB Instances let you pay for compute capacity by the hour with no long-term commitments.

Amazon DynamoDB
• DynamoDB is a fast, fully managed NoSQL database service that makes it simple and cost-effective to store/retrieve any amount of data, and serve any level of request traffic.
• All data items are stored on Solid State Drives (SSDs), and are replicated across 3 Availability Zones for high availability and durability.
• DynamoDB tables do not have fixed schemas, and each item may have a different number
of attributes.
• DynamoDB has no upfront costs and implements a pay as you go plan as a. a flat hourly rate based on the capacity reserved.

Amazon Elastic Beanstalk
• AWS Elastic Beanstalk provides a solution to quickly deploy and manage applications in the AWS cloud.
• Elastic Beanstalk leverages AWS services such as Amazon EC2, Amazon S3, ...
• To ensure easy portability of your application, Elastic Beanstalk is built using familiar software stacks such as:
• Apache HTTP Server for Node.js, PHP and Python
• Passenger for Ruby,
• IIS 7.5 for .NET
• Apache Tomcat for Java.

Amazon CloudWatch
• Amazon CloudWatch provides monitoring for AWS cloud resources and the applications customers run on AWS.Amazon CloudWatch enables you to monitor your AWS resources up-to-the-minute in real-time, including:
• Amazon EC2 instances,
• Amazon EBS volumes,
• Elastic Load Balancers,
• Amazon RDS DB instances.
Customers can also supply their own custom application and system metrics, such as memory usage, transaction volumes, or error rates,

Amazon Simple Workflow Service (SWF)
• Amazon SWF is a task coordination and state management service for cloud applications.
• Using Amazon SWF, you structure the various processing steps in an application that runs across one or more machines as a set of —tasks.||
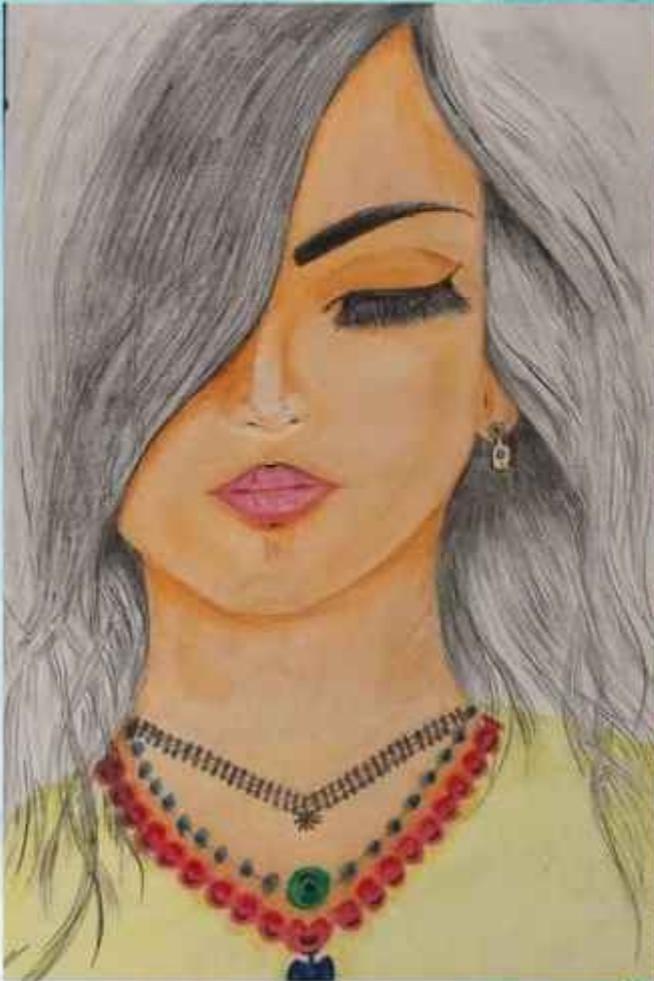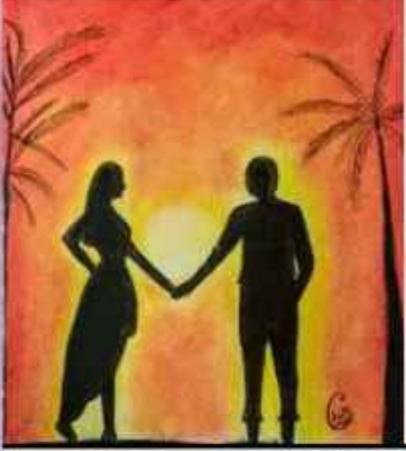
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Devasree B
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Sanju
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Sruthi Dharan

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Gayathri Gireesh
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Nandhitha N
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Shameer J
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Pranav P
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Lekshmi A
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Memories

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"A computer would deserve to be called intelligent if it could deceive a human into believing that it was human."

– Alan Turing

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