ASCII NEWSLETTER

ASSOCIATION OF STUDENTS OF COMPUTER SCIENCE FOR INFORMATION INTERCHANGE

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Welcome!!

The ASCII Club is proud to present to you the brand-new edition of the ASCII Newsletter **2k18-19!** We bring to you an all new on-the-go reading experience to catch interesting technical tidbits, thoughts penned by your fellow students on the open page and of course feats of our department! Meant to be a platform for a meeting of all minds, we look forward to your support and contributions over the year!

Department of Computer Science and Engineering

Vision

To be acclaimed internationally for excellence in teaching and research in Computer Science & Engineering, and in fostering a culture of creativity and innovation to responsibly harness state-of-the-art technologies for societal needs.

Mission

Mission 1: To assist students in developing a strong foundation in Computer Science and Engineering by providing analytical, computational thinking and problem solving skills.

Mission 2: To inculcate entrepreneurial skills to develop solutions and products for interdisciplinary problems by cultivating curiosity, team spirit and spirit of innovation.

Mission 3: To provide opportunities for students to acquire knowledge of state-of-the-art in Computer Science and Engineering through industry internships, collaborative projects, and global exchange programmes with Institutions of international repute.

Mission 4: To develop life-long learning, ethics, moral values and spirit of service so as to contribute to the society through technology.

Mission 5: To be a premier research-intensive department by providing a stimulating environment for knowledge discovery and creation.

Programme Educational Objectives (PEOs)

The Computer Science & Engineering Program graduates will

PEO1: Strive on a global platform to pursue their professional career in Computer Science and Engineering.

PEO2: Contribute to product development as entrepreneurs in inter disciplinary fields of engineering and technology.

PEO3: Demonstrate high regard for professionalism,integrity and respect values in diverse culture, and have a concern for society and environment.

Programme Outcomes (PO's) and Programme Specific Outcomes (PSO's)

PO1: Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO2: Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO3: Design and development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO4: Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO5: Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

PO6: The engineer and society: Apply reasoning informed by the contextual knowledge to Assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO7: Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of and need for sustainable development.

PO8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO9: Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO10: Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO11: Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO12: Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.
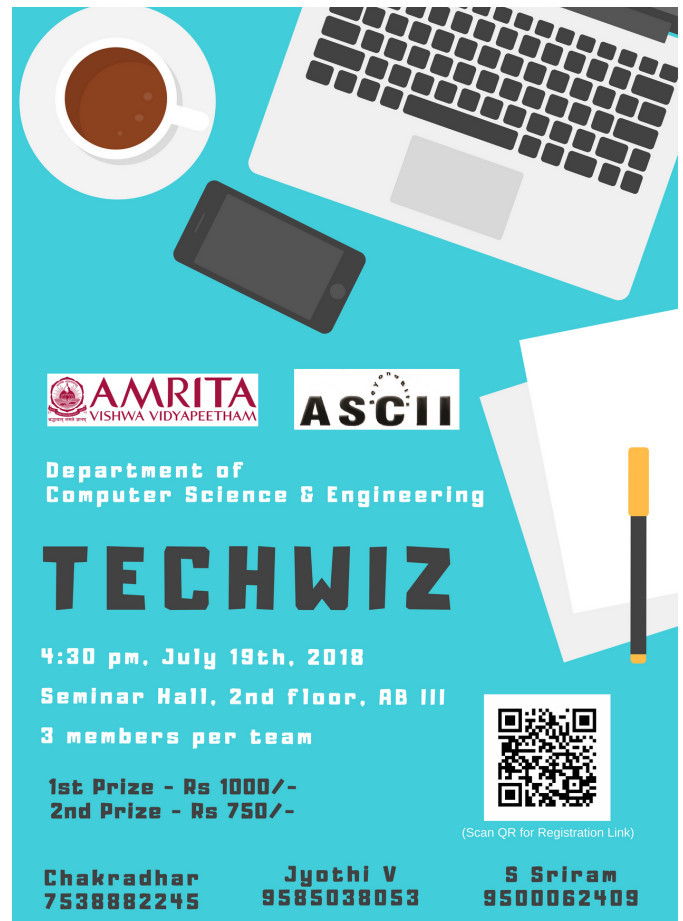
PSO1: Adopt Standard Practices: Ability to design and engineer, innovative, optimal and elegant computing solutions to interdisciplinary problems using standard practices, tools and technologies.

PSO2: Research and Innovation: Ability to learn emerging computing paradigms for research and innovation

TECHWIZ

Technical Quiz Event

The event was hosted on 19th July, 2018 between 4pm and 7pm. The quiz masters were Mr. Ram Newton (CB.EN.U4CSE17353), Mr. Rohan Soneja (CB.EN.U4CSE17246) and Ms. Parvati Biju (CB.EN.U4CSE17416).

AMRITA VISHWA VIDYAPEETHAM
ASCII

Department of Computer Science & Engineering

TECHWIZ

4:30 pm, July 19th, 2018
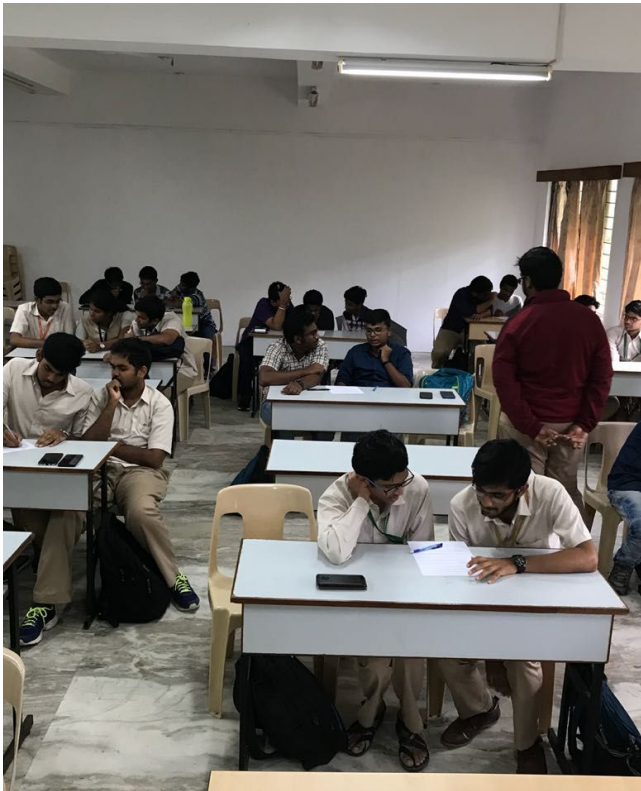Seminar Hall, 2nd floor, AB III
3 members per team

1st Prize - Rs 1000/-
2nd Prize - Rs 750/-

(Scan QR for Registration Link)

Chakradhar
7538882245

Jyothi V
9585038053

S Sriram
9500062409

A total of 130 students attended the prelims in groups of 3. After the prelims top 8 groups were chosen for the next set of the rounds. Apart from prelims the total no. of rounds conducted were 5. At the end of event the top 3 teams were declared as winners

TECHWIZ
Technical Quiz Event

WINNERS

1st prize : Team Sacred Games

Arunachalam M

Shreehari Nair B

Keerthanna G S

2nd prize : Team 123

Sathya Narayan

Vivek K

Gokulnath J

3rd prize : Team Technosapiens

Tharun Karthik K R

Dhuvarakesh

Thejus Rao

$python3learn.py

Python Workshop

The workshop was conducted
on 30th August, 2018
between 4.30pm and 7.30pm
in CP LAB 1 Academic Block 1

The resource people for this
workshop were
Ms. Harsha Vardhini V
(CB.EN.U4CSE15417) and
Mr. Preetham Ganesh
(CB.EN.U4CSE15435).

$python3 learn.py Workshop
BY ASCII

AUGUST 30 ,2018
4:30PM-7:30PM • CPLAB-1, AB-1
@ASCII_AMRITA

SRIRAM S	JYOTHI	CHAKRADHAR
9500062409	9585038053	7538882245

Scan QR for
Registration Link

The topics were conceptually explained by Ms. Harsha
Vardhini V and was demonstrated by Mr. Preetham Ganesh.
The number of attendees for this workshop was 46. The
software used in the workshop was Spyder IDE with
Python3. The topics discussed during the workshop are:

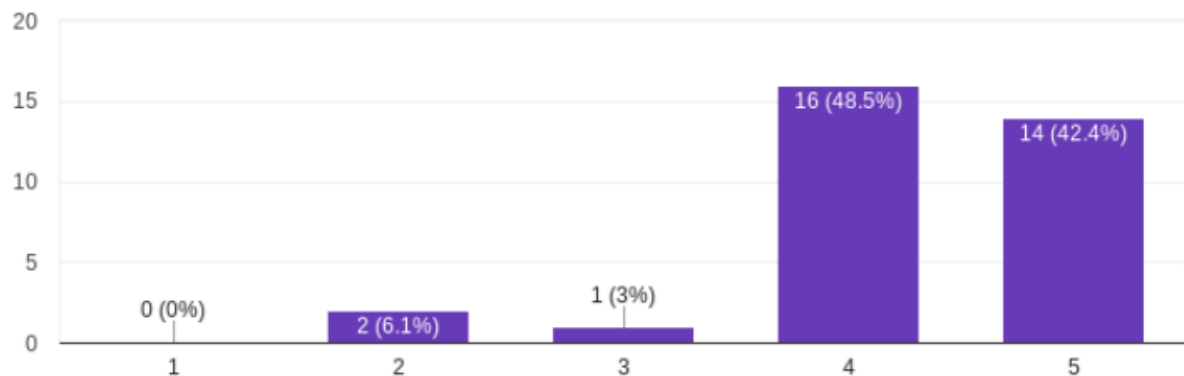Introduction to Python3
Basic Python3 syntax
Data Structures in Python3
Conditional & Looping Statements in Python3
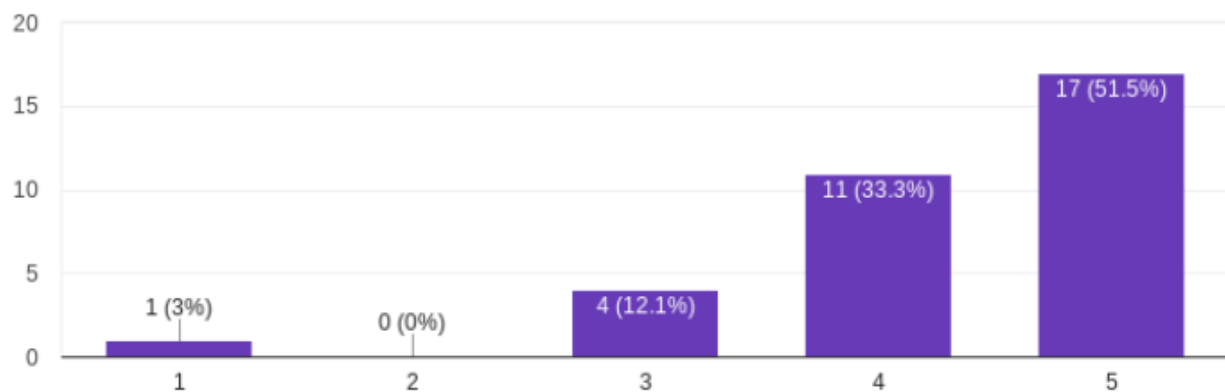
Event feedback statistics report is as follows:

Rate the presentation of the instructor from 1-5, (1 being not satisfactory and 5 being totally satisfied)
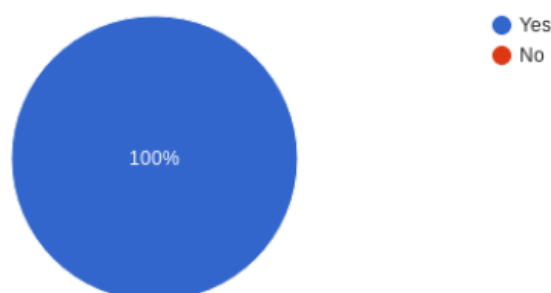
33 responses

Rate the content of the event, (1 being not satisfied and 5 being totally satisfied)

33 responses

Do you need a separate workshop in Pandas and Matplotlib

33 responses

- Yes
- No

100%

ACHIEVING 100 PETAFLOP SPEED USING GOOGLE TPU

Machine Learning has found a variety of applications, the most widely used paradigm being neural networks. But despite their performance, they are very computation intensive and thus have heavy hardware requirements, usually at least a couple of high end GPUs. These hardware setups are expensive, not energy efficient and result in high operating costs. Google's R&D recognized this issue early on and and came up with the idea of Tensor Processing Unit (TPU), an Application-Specific Integrated Circuit (ASIC) for neural networks. ASICs, unlike general ICs,trade flexibility in use for increased efficiency in performing specific tasks in this case, the tasks being training and inferencing neural networks. The first generation of TPUs were deployed in Google data centers in 2015. These TPUs performed 15 times better than GPUs and had 29x better performance per watt compared to contemporary GPUs. After a few iterations, in May 2018, the third generation of TPUs were announced. These TPUv3 pods, Google has claimed, can perform at speeds exceeding 100 petaflops. Though 'pus for training aren't available commercially yet, they are available on cloud, reducing both the idle time of existing TPUs and the costs required to utilize their potential by end-users. According to the DAWN Benchmark by Stanford, a state of the art Image recognition architecture called ResNet-50 could be trained to 93% accuracy in around 9 hrs and with cost of just $60 using v3 TPU pods, which is quite impressive. TPUs can thus accelerate and promote research among academics across the globe in the coming months, as they can focus more on the technical nuances of designing neural networks without worrying about acquiring and setting up efficient hardware.

In July 2018, Google went a step ahead and unveiled Edge TPU, optimized for ML inferencing which complement the function of the cloud TPUs. As the name implies, these have been designed with deployment on edge devices in mind. Hence these have tiny energy footprints besides being physically smaller. They have the capacity to render multiple AI models per frame at 30 FPS, in high resolution without compromising energy efficiency.

Intro to the Team
ASCII Team Members

ASCII Chair
Preetham G
ASCII Co-Chair
Keerthana NK
Nithyashree.R
Faculty Coordinators
Dr. D Venkatararaman Ms. T Bagyammal

Executive Members

Anandhraj
R.Bhavana
Subhiksha R
Suraj A
Aiswaryaa V
Dharaa C
BS Sathya Swaruban
Shradhaa Janakiraman
Harsha Vardhini V
G Shree Shanmukh

V Kaviya
S Sriram
GDHSS Chakradhar
Jyoti Vaidyanathan
Eric Joseph
Kanimozhi NR
Arun Ganesh
Lakshmi Priya E
Balaji Bharatwaj M
Priyamvada Mahesh

K Harshasaketh
T Sritanvi
S Vejay Karthy
Apoorva Reddy P
Rohan Soneja
Sai Priyadarshini
Ram Newton
Parvathi Biju
Saiharsha B
Divya Rathi
NK Ajay Krishnan
Athisha RK

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Signing Off!!!!