

PICT ACM STUDENT CHAPTER ANNUAL REPORT 2018

This document is a report of the activities of the PICT ACM Students Chapter (PASC) during the year 2018. In this report, we explain and list the various activities carried out by the chapter in terms of social outreach, membership drives, technical events, non-technical events, Workshops, SIGs, Seminars, Webinars, Projects and Research papers of our members.

- **Chapter Information:**
 - a. Chapter Name: PICT ACM Student Chapter (PASC)
 - b. Group ID: 156922
 - c. Client Number: 5517732
 - d. Chapter Type: Student
 - e. Chapter Charter Date:
 - f. Chapter Website: <http://pict.acm.org>
 - g. Chapter's Contact Mail: acm.pict@gmail.com
 - h. Chapter Faculty Advisor: Dr.G.V.Kale
Faculty Advisor's Contact Mail: gvkale@pict.edu
 - i. Chapter Chairman: Mr. Chinmay Saraf
Chairman's Contact Mail:
 - j. Number of Chapter Members: 300



- **Annual Technical – Non-technical Event – Pulzion'18:**

Pulzion 2018 - an event sponsored by Persistent Systems, reached great heights with a footfall of over 3000 to compete in thirteen events of varied domains and attend workshops and seminars. This was the fifth edition of technical and non technical festival. This year the adhered to the theme of 'Time and Space. The well-received competitions catered to competitive coders, networking lovers, circuit designers,

creative writers, cricket enthusiasts, TV Series fans and business minds among others. The highlight of Pulzion'18 was a two day workshop on Ethical Hacking in association with Cybercure Solutions. Around 150 students attended the workshop and were enthralled by the exposure the workshop provided them. The workshop received a positive response with the attendees receiving a hands-on experience of dealing with various malwares and their security measures. The inaugural ceremony of Pulzion'18 was graced by dignitaries Dr. R Venkateswaran(VP, Persistent Systems) as the Chief Guest and Mr. Nilesh Sahasrabudhe as the Guest of Honour. An elite crowd of 200 comprising renowned teachers and students from all across Pune was delighted to hear them.

Pulzion18 website: www.pulzion18.com





- **ACM Women in Computing:**

With a view to commemorate women and their legendary achievements, **PICT ACM Student Chapter**, in association with ACM-W India and ACM Pune Professional Chapter, organized an unique event - **Celebration of Women in Computing** on Saturday, 24th February, 2018.

The objective of this ceremony was to spread awareness about women empowerment and to encourage women to attain great feats in technical domain by applauding and appreciating their talents. We organized this event to provide a platform for interaction with eminent individuals wherein they can learn about the various challenges and how one can overcome them.

There were various competitions organized for the participants which included JustCoding, Tech MCQ's Test, Cerebro, BollyQuiz and Insight. The well-received competitions catered to competitive coders, creative writers and Bollywood movie fans. There were various side events for fun and entertainment.

We were graced with the presence of these renowned speakers:

1. Dr. Indira Parikh
Former Dean, IIM-Ahmedabad
Founder President, FLAME
2. Dr. Swati Sardesai
Ex- Deputy Director General and Scientist , National Informatics Centre, Pune
3. Mrs. Shailaja Gaur
Vice President, Deutsche Bank, Pune
4. Mrs. Pranjal Gundesha
Founder and CEO, Intelligenceplus, Pune
Founder of an education based company with a vision to empower every child with life skills in addition to basic academic skills.

With the cooperation of all the members of the PASC and the guidance of our teachers, the event was a huge success.

Website: <http://pict.acm.org/ACM-W/>



Association for Computing Machinery

ACM PUNE
CELEBRATION OF WOMEN
IN COMPUTING
24 February, 2018
Organized by

PIKacmT
STUDENT CHAPTER

Speakers:
->Dr. Indira Parikh,
Former Dean, IIM-Ahmedabad
Founder President, FLAME
->Dr. Swati Sardesai
Ex- Deputy Director General and
Scientist, National Informatics Centre,
Pune
->Mrs. Shailaja Gaur
Vice President, Deutsche Bank, Pune
->Mrs. Pranjal Gundesha
Founder and CEO, Intelligenceplus,
Pune

Attractions of the Event:
->JustCoding and Cerebro
->Bollywood Quiz
->Poster making/ Craft, Rangoli,
Decorations and Literature.
->Side events

**Top 3 Winners will get a
sponsored registration
(including travel+stay) for
ACM-W India Celebration
of Women in Computing
(AICWIC), 2018 in Bangalore**

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- **Participation in ACM India Activities:**

1. **Grace Hopper Conference 2018:**

The Grace Hopper Celebration India is India's largest gathering of women technologists, in partnership with ACM India. This year's conference which was

held in Bangalore on 15th and 16th of November 2018 was attended by PASC members and Dr.G.V.Kale.



2. ACM COMPUTE 2018: (ask chinmay)

COMPUTE, a peer reviewed conference, is *the* flagship conference of the ACM India Council. COMPUTE 2018 – An International Symposium organized by ACM India in collaboration with Chitkara University , Punjab. Two posters were selected for the presentation which were made by the PASC members.

3. ACM-W National Level Hackathon:

A National level Hackathon was conducted by ACM India on 7th and 8th October 2018 at The School of Computer Studies, Ahemdabad University, Ahemdabad. Three of our PASC members were among top 11 in National level Hackathon conducted by ACM India.

4. AICWIC-2018:

The ACM India Summit was conducted on 28 June 2018 and ACM India celebration of women in computing(AICWIC 2018) was conducted on 29 June 2018 at PES University,Bangalore. Two of our PASC representatives Ms. Madhura Avachat and Ms. Aishwarya Harpale represented PASC at the conferences. The witnessed the talks of eminent women representatives of ACM-W India and other dignitaries from computing field.

- **Chapter Activities:**

1. Membership Drive: (as [per shivani it was conducted in sept and members joined she is going to tell soon)

//In January 2017 we conducted membership drive of ACM in our college. We received nearly 200 new registrations for ACM as well as PASC membership, which is nearly 600% increment from last year's membership drive. Also, another// membership drive was conducted in September 2017. We received 60 new registrations from this drive.



2. CSPathshala Workshop: *(not conducted still ask chinmay bhaiyya what to do with it)

CSPathshala (cspathshala.org), an Association for Computing Machinery India (ACM India) initiative, brings a modern computing curriculum to Indian schools. CSPathshala organized a free training workshop for computing teachers on 4th February, 2017. The workshop featured activities related to problem solving and computational thinking as well as curriculum for 2017-18 for grades 1-8. CSPathshala is a completely volunteer driven initiative. We are proud to be a part of this noble initiative taken up by CSPathshala.



3. SIGs and Seminars:

3.1. Technical Paper Writing Seminar:

The seminar was conducted by Rajvardhan Oak, who has 1 technical paper published in IEEE, 2 in Springer and 1 in Inderscience to his credit on 3rd February 2018.

An insight on the entire procedure of publishing a research paper was given; right from identifying the domain and gathering statistics, citations to presenting it. An overview of an ideal paper along with the format [Abstract-Introduction-Proposed work-Results-References] was given. It was substantiated with the speaker's paper on Authentication using Behavioral Biometrics.

Guidelines for choosing the publications and conferences to publish papers were also given. After covering all aspects of this procedure, doubts were cleared and the speaker signed off by expecting more PASC members to come up with research papers!



3.2. Web Development (HTML-CSS): (not conducted)

A one day SIG was conducted on basics of web development for 1st year and 2nd year students on 14th September, 2017. It included front of web development. Basics HTML, CSS were covered in session.



3.3. Android App Development: (only one sig was conducted by shubham chaudhari on 19 sept 2018)

A one day SIG was conducted by Chinmay Saraf and Siddharth Sabadra, PASC Android developers, on 19th of September 2017. It included basics of Android development using Android studio and developing a simple static application.



3.4. Cyber Security(not conducted in 2018)

A series of cyber security SIGs were conducted in the month of September and October on alternate Saturday and Sunday by Mr.Shlok Gilda, PASC Cyber Security Head.

3.5. Introduction to GRE:

A session on GRE exam information was conducted by Mr.Rajvardhan Oak, PASC Vice-Chairman who secured 333 out of 340 in GRE in 2017. He covered topics about GRE as Exam Pattern of GRE, Resources required for preparation, study timeline and some important keynotes, which were so helpful for attendees.

3.6. Domain Introduction:

A one day seminar was conducted on 2nd September 2017 on “Introduction on various domains” for new PASC members so that they can choose one by their interest.

3.7. PASC Hackathon:

PASC conducted Hackathon for the first time ever in PICT for the First Year and Second Year Students.The Hackathon was not conducted in one day. The participants were given themes for the Hackathon during the registration itself. The teams consisted of 2-4 members each. All the teams were given a duration of approximately 1 week for their project. The projects were displayed on 28th March 2018 in PICT. We got tremendous response from students who came to see the projects displayed.

4. Workshops:

4.1. Machine Learning:(only one session was conducted on 2nd oct 2018 by ratadiya)

/*A workshop was arranged on Machine Learning conducted by a PASC Alumni of Batch of 2017, Mr.Akash Vartak . The workshop was a session of 3 days and the first day included: Introduction to Python, its libraries: Pandas, Numpy and use of Jupyter Notebook. An active participation and enthusiasm to learn about the topic was seen among the students. The 1st session was conducted on 2nd October 2017.

The day 2 of the workshop was conducted on 8th July 2017. It included the use of matplotlib and seaborn for Data Visualization. It also emphasized on Python's Machine Learning library 'scikitlearn'.

The final day of the workshop helped the students to deal with actual ML problems. A complete problem was taken to help them analyze and interpret the given data and get the optimum solution. The workshop finally concluded on 15th July 2017 under the guidance of Akash Vartak.*/



4.2. Web Development (Angular JS):

A one day workshop was conducted by Akash Raina on Angular-JS on 10th September 2017. It included advanced web development using framework of Java Scripts (JS).



4.3. Artificial Intelligence:

A two day workshop on Artificial Intelligence was conducted by PASC on 30th June and 1st July 2017 by renowned speaker Mr. Vikramank Singh.(to know more about the speaker : www.vikramanksingh.com). The response to the workshop was overwhelming. Students from all over Pune were allowed to attend the workshop and the total number of registrations we received were around 70 candidates for the workshop.

4.4. Ethical Hacking :

A two day workshop was conducted on ethical hacking on 19th and 20th of August 2017 by “Cybercure” expertise. It included introduction to hacking, some basic hacking methods, etc. We received response of nearly 150 candidates for workshop.



4.5. Introduction to Linux (Linuxify):(not conducted delete it or keep it depends on us).

Linuxify workshop was conducted by PASC members on 12th February, 2017. It included installation of Ubuntu Operating System on laptops. Also, various terminal commands were taught.



5. Webinars:

5.1. NodeJS:

A webinar on Nodejs was conducted by PASC Alumni Mr.Sarthak Munshi, Content Engineer at Hackerrank, and Intern at Google Summer of Code on 16th of September 2017. It included some NodeJS modules like HTTP module, URL module, etc.

6. Chapter Regular Meetings:

We regularly conduct chapter meetings for various activities like project discussions, event planning, some technical sessions, etc.

- **Projects and Research Papers:**

- 1. Projects:**

- a. Advanced Spam Filter** -Detection of spam using artificial neural networks (Aug 2017-Oct 2017), By Mr.Rajvardhan Oak and team.
 - b. DDoS Detection**- Detection of network attacks using data mining algorithms (April 2017-July 2017), By Mr.Rajvardhan Oak and team.
 - c. BehavioAuth**- A new architecture for authentication using behavioral biometrics. (Feb 2017-April 2017), By Mr.Rajvardhan Oak and team.
 - d. Genome Sequencing** - Design of parallel architecture for De Novo Genome Sequencing with Velvet using OpenMP (Nov 2016-Jan 2017), By Mr.Rajvardhan Oak and team.
 - e. Parking Spot Reservation System** — Blockchain + Machine Learning , Working on a decentralized parking spot reservation system which uses Hyperledger Fabric to rent physical locations for parking. Uses machine learning algorithms that automates buying-selling process and provides dynamic, real-time price recommendations. (October 2017 - PRESENT), Shlok Gilda and team
 - f. Immigration Border Management System** — Blockchain + Machine Learning , Working on a smart, decentralized system which will help border agencies to collaborate and store the border crossings data in a secure and effective way using Hyperledger Fabric. Uses machine learning algorithms that will calculate the past unusual events and criminals behavior and will predict if citizen is legit or not by the existing data stored in the blockchain. (September 2017 - Present), By Shlok Gilda and team.
 - g. User Motion Detection (IEEE Technergize)** — Deep Learning , Working on a user motion detection project. The project aims to recognize human-object interactions and build a timeline of user actions. Technergize is a national level project competition organized by IEEE Computer Society India Council Students Activities Committee. (September 2017 - PRESENT), By Shlok Gilda and team.

- h. **Fake News Detection** — Machine Learning , Evaluated multiple machine learning algorithms for detecting fake news on the Internet. Achieved best accuracy of 85.6% by passing TF-IDF of bi-grams fed into a Stochastic Gradient Descent model. Also experimented with combinations of bi-grams with PCFG features. (September 2017 - October 2017), By Shlok Gilda and team.
- i. **Evading Machine Learning Malware Classification** — Reinforcement Learning, Automated application that finds blind spots in a static analysis anti-malware Windows PE classifier and makes functionality-retaining transformations in the malware files so that they successfully evade the classifier. (August 2017 - November 2017)
- j. **Source Code Classification using Neural Networks** — Deep Learning , Source code classifier that uses a word embedding layer with a Convolutional Neural Network to classify 60 programming languages with an accuracy of 97%. Currently extending this work to classify malicious source codes files. (March 2017 - Present), By Shlok Gilda and team.
- k. **Password Cracking using Neural Networks** — Deep Learning, Password generation application built using Keras. It makes use of a RNN-LSTM network which reads from a set of starter passwords and tries to predict new passwords from the linguistic patterns observed. Application cracks 7 times more passwords with 7 times lesser number of words than brute force and dictionary attacks. (February 2017 - PRESENT), By Shlok Gilda and team.
- l. **Emotion Recognition** — Deep Learning, Emotion recognition application which leverages technologies like OpenCV, Keras and DLib to recognize facial expressions with an accuracy of 90.23% for 4 emotions. (June 2016 - March 2017), By Shlok Gilda.
- m. **Music Mood Classification** — Deep Learning , Music mood classification application which leverages technologies like Keras, LiBROSA and MIR to extract audio features of songs and classifies english songs with an accuracy of 97% for 4 emotions. (August 2016 - March 2017), By Shlok Gilda and team.
- n. **Teacher-Student Communication** — Android based platform for teachers and students for sharing notes, important notices,etc important academics. Back-end is developed using MySQL-PHP and Front-end using Android. (August 2017 – November 2017), By Chinmay Saraf, Sangat Das and Siddharth Sabadra.
- o. **PASCchat** — Android based Chatbot specially designed for PASC members for better communication and also have notification sending facility for chapter

council members. (August 2017 – December 2017), By Devashish Khairnar, Urmil Shah and Shubham Chaudhari.

- p. **Hand Cricket**— Java Application Java based game for teens who love cricket very much. Based on cricket, teens played cricket during classes using book where last digit of page number acted as runs scored. (March 2017 – October 2017), By Avinash Goen and team.
- q. **XamBuddy** — Web Application, Examination portal for engineering students of Pune University. A good help for students to practice before examinations. Good help for MCQs, sample papers for practice. (August 2017 – December 2017), By Avinash Goen and team.

2. Research Papers:

- a. Mrunmayee Khare, Rajvardhan Oak, **“Real Time DDoS Attack Detection using Decision Trees”**, Springer International Conference on Recent Advances and Applications in Computer Engineering, 2017.
- b. Rajvardhan Oak, Mrunmayee Khare, **“A Novel Architecture for Continuous Authentication using Behavioural Biometrics”**, IEEE International Conference on Current Trends in Electrical, Electronics and Computers, 2017.
- c. Rajvardhan Oak, **“A Literature Survey on Authentication using Behavioural Biometric Techniques”**, Springer International Conference on Intelligent Computing and Communication, 2017.
- d. Rajvardhan Oak, **“A Study of Digital Image Segmentation Techniques”**, International Journal of Engineering and Computer Science, Vol. 5, Issue 12
- e. Rajvardhan Oak, **“Extractive Techniques for Automatic Document Summarization: A Survey”**, International Journal of Innovative Research in Computers and Communications Engineering, Vol.4, Issue
- f. Shlok Gilda, **“Blockchain for Student Data Privacy and Consent”**— 2018 International Conference on Computer Communication and Informatics, Coimbatore, India JANUARY 04, 2018 - JANUARY 06, 2018 Paper selected for oral presentation at 2018 International Conference on Communication on Computer Informatics (ICCCI) technically sponsored by IEEE and IEEE Madras Section.
- g. Shlok Gilda, **“Evaluating Machine Learning Algorithms for Fake News Detection”** — IEEE Student Conference on Research and Development (SCOREd) 2017, Putrajaya, Malaysia DECEMBER 13, 2017 - DECEMBER 14.

- h. Shlok Gilda, **“Source Code Classification using Neural Networks”** — 14th International Joint Conference on Computer Science and Software Engineering (JCSSE), Nakhon Si Thammarat, Thailand JULY 12, 2017 - JULY 14. The paper has also been selected for poster presentation at IRISS 2018: 12th Inter-Research-Institute Student Seminar in Computer Science, organized by ACM India. DOI: 10.1109/JCSSE.2017.8025917
- i. Shlok Gilda, **“Smart Music Player Integrating Facial Emotion Recognition and Music Mood Recommendation”** — International Conference on Wireless Communications, Signal Processing and Networking (WiSPNET), Chennai, India MARCH 22 - MARCH 24, 2017.

ACHIEVEMENTS OF PASC MEMBERS:

1. Rajvardhan Oak, former PASC Vice Chair secured 333/340 in GRE. He is currently pursuing MS degree at UCB, California.
2. The present all the PASC members have secured 100% placements in the campus placements.
3. Two of our PASC members qualified CAT 2018 entrance exam with 98 and 96 percentile respectively .