

IEEE FOOTHILL SECTION

SEPTEMBER TO OCTOBER 2025 BI-MONTHLY NEWSLETTER

Prepared by: Max Cherubin | Proofread by: Prof. Gerald Herder



September ExCom/OpCom Monthly Hybrid Meeting

The IEEE Foothill Section ExCom/OpCom Monthly Hybrid Meeting was held on September 09, 2025. The meeting started at 07:01 pm. The chair presented the August draft minutes, and some names were not on the list. It will be modified.

The Chairman's remarks followed. The chair is no longer using its Otter.Ai. Election nominations are now open for Section Officers for 2026. The chair also proposed a holiday party. Some members suggested having it by the first or second week of December. There will be a STEM Expo, sponsored by the IEEE CLA Section, held on the LMU Campus.

The chair mentioned that one of the CPP professors had reached out to him, asking if there was another TAE Tour. Gladly, Pankaj Bhowmik, the section's former YP chair, joined the meeting and shared the availability of the tour in TAE. They plan to have it either the first or last week of October. Further details to be discussed.

...continue reading in page 2

What's INSIDE

IEEE SEPTEMBER EXCOM/OPCOM MONTHLY HYBRID MEETING pages 1-2

IEEE OCTOBER EXCOM/OPCOM MONTHLY HYBRID MEETING pages 1 & 3

AEMS page 4

STUDENT'S CHAPTER page 5

WEEKEND ESPRESSO page 6

UPCOMING EVENTS page 6



This newsletter is brought to you by: www.panatron.com

The IEEE section meeting covered various administrative matters including event planning, membership engagement, and treasury updates. Technical committee updates were shared across multiple areas including AI, robotics, and engineering licensing.

The IEEE October ExCom/OpCom monthly hybrid meeting was held on October 14 at DeVry University in Ontario. The meeting started at 07:01 pm. The chair stated that the elections should be done by the end of December or January, or in the calendar year. The chair attended the R6 Southern/Southwest Fall Area Meeting on October 11. He expressed his willingness to step down as section chair after years of service as a volunteer and chair. SusTech 2026 is set for next year in Santa Ana, CA. The section has been sponsoring this event annually. Art Sutton volunteered to serve as the Section Congress representative for the virtual event in December and the in-person event next year in Scotland.

...continue reading in page 3



October ExCom/OpCom Monthly Hybrid Meeting

IEEE FOOTHILL SEPTEMBER EXCOM/OPCOM MONTHLY HYBRID MEETING

Membership Development

Kim Mosley was available later on, so the chair gave the report. Membership total is at 953. The section needs to find a way for students to transition into becoming members. Prof. Saouli, the section's student activity committee coordinator, will visit each university to learn about its status.

Social Media and Websites

Osman Ceylan reminded the section regarding the new LinkedIn page. There were a total of 494 visits for this month. He also shared the MAPCON 2026 (Microwave, Antennas and Propagation Conference 2026), which will be held from December 14-18 in India.

Technical Committees

MTT. Scott Wedge reported. He mentioned their seminars. They talked on Silicon-Base Phase Arrays and the Impact on Communication and Radar with their speaker, Prof. Gabriel Rebeiz, on Oct. 14. On Nov. 11, Prof. Anna Piacebello will talk about Efficiency-Linearity Trade-Off in Doherty's PAs. CLASTECH 2026 will be in November 14 at Eravant, Torrance, CA.

Ed/CASS. Bo Chen reported that the chapter was awarded \$1000.00 for membership recruitment, which started with meetings last Spring. Richard Fung has been coordinating meetings with Alex. The August 16th Weekend Espresso was about patents. The group was contacted by CPP-Pomona faculty, Dr. Ozer, regarding a presentation on AI Machine Vision. Richard is working with Alex on a session focused on IP strategies.

Nanotechnology. Jenny Yu with Kai Arello, the Banshee UAV president. Nanotech will continue to support CPP-Pomona for the coming semester. They will have upcoming workshops, which will be available in vTools soon for details: Lithium Batteries, Computational Fluid Dynamics, and Camera Gimbals Controls. Any workshop funding will be after the meeting with Prof. Moe.

ComSoc. Dr. Tamer Omar reported on the After-School Engineering Academy, which was 80% successful. This year, they plan to work with the Bonita School District. Right now, they are looking for funding to support this event and the section are willing to support. The school said they can charge students for the equipment they use.

PES. Koji Yamashita reported. They had a webinar last August 13th with a total of 13 attendees. They also had another webinar last Sept. 17th about Generating a Synthetic Grid/Network. All webinar recordings are available on the Foothill PES webpage and their YouTube channel. A total of eight videos have been uploaded since last year.

CS. Bassem Maurice reported. They created two metrics to measure the engagement in the chapter. One engagement is through the eNotice send-out, and the other involves tracking how many members clicked the eNotice. The open rate was low at <1% except for the month of June, when we had the TopGolf event announcement. More events are coming in conjunction with Orange County IEEE and ACM.

YP. The section's YP chair position has been long idle, and now there are two prospects for the position, Sachin Hiriyanra and Abiola Adams. The section has yet to decide who will take the position of chair. But the section is grateful for the volunteerism of these two.

Art Sutton volunteered to be the section Awards Chair Representative. He also shared that the CN chair, Cash Sutton, was recognized and featured in IEEE USA-Insight magazine.

The chair reminded the section of the AEMS. They need volunteers to attend the IEEE booth. Prof. Saouli already pledge to volunteer.

IEEE FOOTHILL OCTOBER EXCOM/OPCOM MONTHLY HYBRID MEETING

Membership Development

The section's membership increased from 953 to 990. We gained 37 new members. We also had a senior membership elevation.

- Koji Yamashita
- Wangjun Zhou

Technical Committees

MTT. Scott Wedge mentioned that Prof. Gabriel Rebez had a successful talk about Silicon-Based Phased Array Antennas at UC San Diego. Gabriel is a colleague and friend of Scott Wedge. He figured out how to do anisotropic etching in silicon to create antennas on silicon wafers, and also developed interposer technology with detectors between the wafers. On November 12th, they had a presentation on LC and phase-locked loop design. CLASTECH 2025 is also set for Nov. 14.

Nanotechnology. Jenny Yu and August, an electrical and computer engineering project manager, will share the details. They also met with Professor Saouli. They have planned workshops for late October and November related to Aerodynamics, Flight Testing, and Avionics. They will also communicate with Ryan Lui, the CPP Student Chair to help them advertise their events.

ComSoc. Prof. Tamer Omar reported. He is currently working with Prof. Sedat Ozer on SSCAIR 2025. This conference is a local symposium, a couple of Southern California AI and Robotics Symposiums. It brings academics, students, and some industry as well. CPP-Pomona hosts this event on Oct. 29-30. They are also working with Bonita High School on a Microcontroller workshop and are willing to sponsor the event.

PES. Koji Yamashita reported. On September 17, they held a talk with 20 participants. That was a joint event with Silicon Valley and the Richland chapter. This month, they plan to invite one speaker from the Electric Power Research Institute in the US. He will discuss renewable energy modeling using AI Technologies, including machine learning. He's also trying to change his approach to advertising the event to gather more participants. All recorded PES events are uploaded to their YouTube channel.

CS. Bassem Maurice reported. They had a joint event with the Orange County Computer Society on the deployment of AI systems in healthcare, along with some notes. Before the end of the year, they are trying to co-host a blockchain event with the Hawaii section. They are still figuring out a suitable date for Dr. Monica about the Human Factors in Agentic Interactions.

WiE. Kim Mosley. They had an event on October 8th about The Road to PhD, with several moderators; 12 attendees attended. Kim asked the chair for the updated Welcome Letters so she could send them to the new members. She also asked for a \$25.00 gift card to be sent to the speakers.

YP. Sachin Hiriyanna and Abiola Adams reported. They are the appointed chairs. They met with Pankaj Bhowmik, the former YP chair of the section. Pankaj helped them with how to access vTools and file events. Last week, they created a LinkedIn YP page for the section and a WhatsApp group to keep communication lines open and keep members updated in real time. They were able to file an event in vTools, scheduled for Oct. 23, titled "How to Optimize LinkedIn for Personal Branding."

CN. Cash Sutton reported. They will have a speaker, Natalie King, who's a civil engineer and works with the Board for Professional Engineers, Land Surveyors, and Geologists. He wants everyone to know that she'll be giving a presentation on the new licensing requirements in the State of California. This presentation will be on November 5th during the CN November meeting. Cash also nominated the following names, along with their corresponding awards.

- **Outstanding Service Award:** Max Cherubin
- **Outstanding Contribution to Promoting Women in Engineering:** Kim Mosley
- **Outstanding Educator Award:** Prof. Moe Saouli

AEMS 2025

Anaheim Electronics & Manufacturing Show

Reported by: Prof. Moe Saouli from DeVry University

The following information about the IEEE-affiliated seminars at AEMS (Anaheim Electronics & Manufacturing Show) on Wed. Oct. 24 and Thursday, Oct. 25. IEEE Presentations included topics about AI use and panel discussions. Here's a summary of what covered during the event, themes, structure, and highlights of AI-related content.

The trade show and accompanying seminars were oriented toward electronics design, manufacturing, assembly, testing, and related systems. The IEEE seminars were free to attend (with registration) and co-located with the exhibitor floor. Among the sessions were "IEEE Keynote" and IEEE-branded rooms, indicating a more formal, society-led component of the programming.

IEEE Keynote: Robotic Intelligence: AI in Agile Machines

This keynote addressed intelligence in autonomous and moving systems, with emphasis on real-time safety, security, and accuracy constraints when embedding AI in robotics and agile machines.

The moderator was Brian Hagerty (Celeste Power Group), and speakers included Pratul Singh (Robotics & Automation Specialist) and Timothy Akers (PhD, Chief Research Officer, Cal State San Bernardino).

Panel: Manufacturing Systems & Global Supply Chain Engineering

A moderated industry panel on global trends, challenges, and transformations in chip, systems, and market supply chains. Panelists included John Cheng (Custom Silicon Solutions), Sid Sung (Digital Transformation consultant), and David González (former US Navy laboratory program manager).

Observations:

AI & Panel Trends: We can infer several broad themes and trends in how IEEE integrated AI into the AEMS context. Also, bridging AI and real-time / edge / embedded systems: Many of the talks (including the IEEE keynote) emphasize embedding intelligence in agile machines, robotics, and connected systems. The challenge of merging AI demands (latency, safety, reliability) with physical, real-time constraints is a recurring thread.

Great attendance overall, in every session! The program aligns closely with the domain of AEMS – connecting electronics, hardware, embedded compute, and AI. IEEE's branding (keynotes, rooms) gives gravitas and consistency to the technical track. The mix of keynote + panels + vendor/technical talks allows multiple engagement modes (strategic, technical, product). The inclusion of standards/professional/entrepreneurial topics is valuable for attendees thinking beyond pure R&D. Some of the sessions were interactive with Q&A, deep technical depth connecting with the audience.



STUDENT'S CHAPTER



Submitted by: William Burgess

Workshop #3: SDR Tutorial

Students were introduced to using **Software Defined Radios** (SDRs) both physically and through software. This was a software-heavy workshop where participants learned how to download and use SDR Sharp to visualize frequency spectrum and identify local signals via antennas they assembled.

Additionally, students were guided through Virtual Radar Software and 1090dump, learning how to identify, track local aircrafts and obtain flight data.

- Attendance: 18+ students (excluding officers)
- Special Thanks: Foothill for providing equipment and SECTA for food



GEM (Grand Engineering Mixer)

Students were invited to a collaborative networking mixer aimed at fostering connections among engineering peers. The event featured board games, a group film, and food and beverages provided by IEEE ComSoc and our collaborative **SWE, SCETA, and IEEE**.

- Attendance: 18 participants (excluding IEEE and IEEE ComSoc teams)
- Both events have been filed on vTools for documentation



Club Statistics

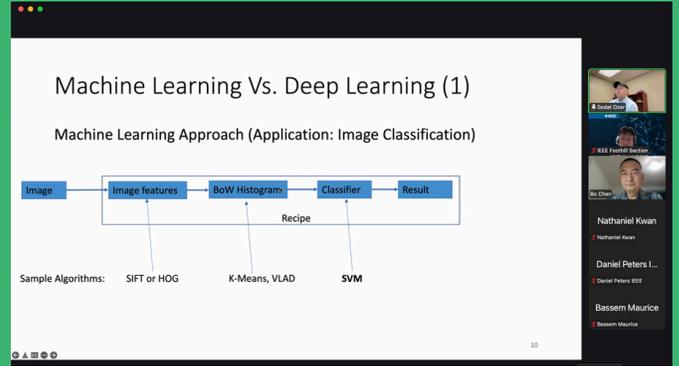
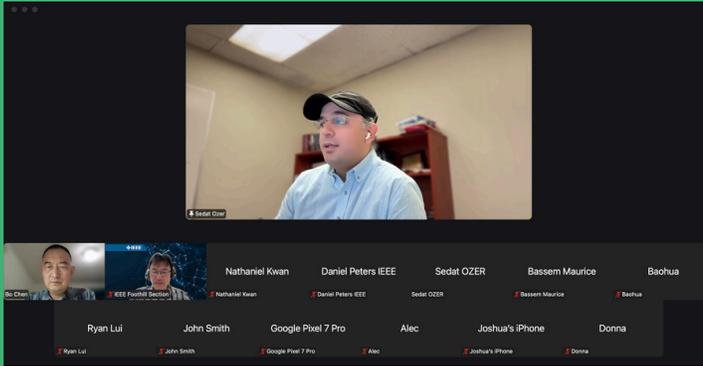
Thanks to the Engineering Council's Club Fair and collaborations with SCETA, we've seen encouraging growth in membership and engagement.

- Discord: 250+ members
- MyBAR: 73 registered members (including 5 officers)

I'm glad to report that we had another successful Weekend Espresso event last Saturday (9/27). Dr. Sedat Ozer from Cal Poly Pomona gave a very engaging overview of AI. He walked us through the evolution of machine learning from SVM to deep learning models, demonstrated the capabilities of state-of-the-art LLMs, and introduced the fundamentals of model training and reinforcement learning.

Reported by: Richard Fung

During the Q&A, attendees raised thoughtful questions, and we discussed potential applications of machine vision in semiconductor wafer inspection, analog computing, the impact of training data bias, and the process flow behind LLM-based image generation. We had a total of 14 attendees in this informative and interactive session.



What is AI?

Defining Artificial Intelligence
Artificial intelligence refers to computer systems that can perform complex tasks normally done by human-reasoning, decision making, creating, etc.

There is no single, simple definition of artificial intelligence because AI tools are capable of a wide range of tasks and outputs, but NASA follows the definition of AI found within [FO 13960](https://www.nasa.gov/what-is-artificial-intelligence/), which references Section 238(g) of the National Defense Authorization Act of 2019.

- Any artificial system that performs tasks under varying and unpredictable circumstances without significant human oversight, or that can learn from experience and improve performance when exposed to data sets.
- An artificial system developed in computer software, physical hardware, or other context that solves tasks requiring human-like perception, cognition, planning, learning, communication, or physical action.
- An artificial system designed to think or act like a human, including cognitive architectures and neural networks.
- A set of techniques, including machine learning that is designed to approximate a cognitive task.
- An artificial system designed to act rationally, including an intelligent software agent or embodied robot that achieves goals using perception, planning, reasoning, learning, communicating, decision-making, and acting.

[Source: <https://www.nasa.gov/what-is-artificial-intelligence/>]

Introduction

Given observation (i.e., the data), derive a rule that can imitate the mechanism generating the observation: find the function $f()$

$$x_{\text{observation}} \rightarrow f(w, D) \rightarrow y = \hat{y}$$

Model output (predicted label)
True or expected output (true label, ground truth, the given labels, etc.)

What is supervised learning?

$$D = \{(x^{(1)}, y^{(1)}), (x^{(2)}, y^{(2)}), \dots, (x^{(m)}, y^{(m)})\}$$

$$w = g(x, y)$$

Learn from the data with the labels.
Find the model parameters as a function of the data that fit the data the best.

2026 IEEE RISING STARS CONFERENCE

JANUARY 2-4

LAS VEGAS, NV, USA

@ieeerisingstars
 IEEE Rising Stars Conference
ieee-risingstars.org
risingstars@ieee.org

Linktree:

Upcoming EVENTS

IEEE FOOTHILL CN NOVEMBER MONTHLY MEETING
November 05, 2025

IEEE NOVEMBER EXCOM/OPCOM MONTHLY HYBRID MEETING
November 11, 2025

CLASTECH 2025
November 14, 2025

<https://www.facebook.com/groups/ieeefoothill>
<https://www.linkedin.com/groups/14719101/>

<https://foothill.ieee-bv.org/>