

IEEE North Jersey Section

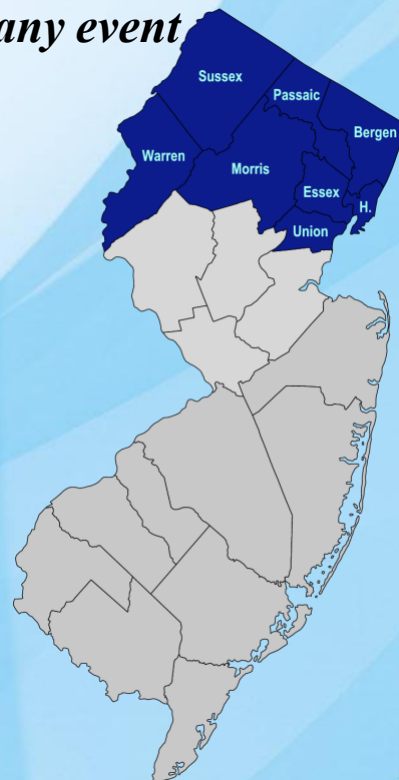
IEEE North Jersey Section

VOL. 71, NO. 07 Issue: August 2025

Prior registration is highly encouraged to attend any event

IEEE North Jersey Section Website

IEEE North Jersey Section - Roster





Chair's Note - A Message from the IEEE North Jersey Section Chair, Dr. Emad Farag

I hope everyone has had a wonderful and restful summer so far and is enjoying the final stretch of the season. As we begin to transition into the fall, it's a great time to reconnect, reengage, and look ahead to the exciting activities we have planned for the rest of the year.

Earlier this month, we held our Section's annual picnic on August 2nd, and it was a fantastic opportunity to catch up with colleagues and enjoy some well-deserved time outdoors. Thank you to the organizers and to everyone who joined us and helped make the event a success. Be sure to check out the photos from the picnic included in this newsletter.

Looking forward, we have a packed calendar of technical events lined up.

The 13th Annual IEEE North Jersey Advanced Communications Symposium will take place virtually on Saturday September 13th, featuring a robust program of talks centered on communications, sensing, and AI.

Later in October, the 39th IEEE North Jersey Annual Symposium and Mini-Show on October 9th will bring together distinguished lecturers in wireless technologies, along with exhibitors from leading technology companies showcasing their latest innovations.

We are honored to co-host a distinguished IEEE Milestone Celebration at Nokia Bell-Labs this October, where we will commemorate the dedication of seven IEEE Milestones. These recognitions celebrate pioneering technological achievements that have made a lasting impact on society and exemplify innovation and engineering excellence in service to humanity.

In addition to these signature events, we'll be hosting a variety of technical talks and workshops across multiple venues throughout the section.

I encourage all of you to take part in these events, reconnect with fellow members, and stay actively engaged with our community. Your participation is what makes our section vibrant and impactful.

We look forward to seeing you there!

Emad Farag,

IEEE North Jersey Section Chair

Schedule for the 2025 ExCom Meetings:

| Month | Meeting Date | Venue |
|-----------|----------------|--|
| January | Wed: 08-Jan-25 | Zoom Meeting |
| February | Wed: 05-Feb-25 | Fairleigh Dickinson University, Teaneck + Zoom |
| March | Wed: 05-Mar-25 | NJIT, Newark + Zoom |
| April | Wed: 02-Apr-25 | Montclair State University, Montclair + Zoom |
| May | Sun: 04-May-25 | Awards Banquet: Hanover Manor (no Zoom) |
| June | Wed: 04-Jun-25 | Zoom Meeting |
| August | Sat: 02-Aug-25 | Picnic: Duke Island Park, Bridgewater (no Zoom) |
| September | Wed: 03-Sep-25 | Fairleigh Dickinson University, Teaneck + Zoom |
| October | Wed: 01-Oct-25 | NJIT, Newark + Zoom |
| November | Wed: 05-Nov-25 | Nokia Bell Labs, New Providence + Zoom |
| December | Tue: 02-Dec-25 | End of the year: Hanover Manor, East Hanover (no Zoom) |

2025 IEEE North Jersey Section Picnic: The Picnic was held on August 2nd, 2025 at Duke Island Park in Bridgewater, NJ
#jersey #excom

North Jersey IEEE Picnic When: Aug. 2, 2025 Where: Duke Island park Bridgewater, NJ



IEEE North Jersey Section Picnic event was a great success with the section members, student members, YP and many family members joined and were happy to interact with the IEEE North Jersey Section members and learn of the various initiatives and activities. This event was held on Saturday August 2nd, 2025 at Duke Island Park in Bridgewater, NJ.

A few pictures taken during this event are shared below.

Some pictures from the IEEE North Jersey Section Picnic and Membership Development event held on Aug 2nd at the Duke's Island Park, Bridgewater NJ.



[For more pictures of the picnic: Click Here](#)

Have Many Ideas for Inventions - *An article by Harry Roman*

Most inventors including the great ones like Edison agreed. If you want a great idea, come up with many so you can pick and choose and develop hybrid ideas. But how many ideas are enough? As an R&D project manager at PSE&G and a devotee of invention, this question haunted me for some time.

I finally arrived at a useful heuristic or rule of thumb, which my R&D colleagues at DuPont helped with. In their long corporate history and their dedication to making the concept of innovation the heartbeat of their strategy, DuPont researchers had a simple philosophy: to obtain 4 really good commercial ideas, it was necessary to winnow through 164 ideas. Roughly one idea in 40 is commercially feasible. That represents a great deal of evaluation of commercial possibilities, and much time and emotional capital to be spent; but it must be done to make sure the chosen solution can fit the needs of the problem at hand.

Another interesting general rough rule I have heard over the years was: only one out of 49 ideas result in a commercial product. Not so different from the DuPont heuristic.

Don't be afraid to wade into the many ideas to fulfill the excitement of a potential new product.

Talk to you again soon...

Harry T. Roman, Life Senior Member

Author & Advisor, Edison Innovation Foundation

(Retired-PSE&G Co.) htroman49@aol.com

IEEE North Jersey Section's Education Committee Technology Review Series:
- Article for August 2025

Introduction to Neural Networks - Part 1 : Multilayer Perceptron

The theme of this article is to introduce a new category of machine learning algorithms known as neural networks. The process of using neural network algorithms for training models and using them for prediction remains the same as earlier machine learning examples. Neural networks introduce different approaches to managing an algorithm for training purposes. They also introduce different architectures (input, hidden and output layers) for neural network construction that play a role in how effective the neural network is at prediction.

New and distinct datasets are used in this review to demonstrate the performance of the models on this data amongst the neural networks used. Some exploratory data analysis is used to assess how to clean and prepare the data prior to its use in training models. The statistical properties of the dataset inform the approaches to be used in data hygiene. These datasets cover fertility and census income corp.

To evaluate performance and tune hyperparameters, some error metrics are used to summarize and improve the prediction capabilities. Training time is also explored for the neural network. Additional areas covering convergence, feature engineering, and the basic operation of the multilayer perceptron is demonstrated using the scikit-learn libraries.

[Full Article](#)

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THE INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS, INC.

IEEE NORTH JERSEY SECTION
MTT-Society and AP-Society Joint Chapter
PRESENTS

39th ANNUAL SYMPOSIUM AND MINI-SHOW

FOCUS:

**SELECTED TOPICS IN RF AND MICROWAVE TECHNOLOGIES FOR
COMMERCIAL AND MILITARY APPLICATIONS**

DATE: THURSDAY, OCTOBER 9, 2025

PLACE: Hanover Manor, 16 Eagle Rock Ave., E. Hanover, NJ 07936. Ph#973-992-7425

SCHEDULE OF EVENTS

9:00 AM TO 4:30 PM

TECHNICAL SESSIONS

**10 –12 LECTURES FEATURING SPEAKERS FROM LEADING
COMPANIES, WITH EMPHASIS ON MILITARY ELECTRONICS,
WIRELESS TECHNOLOGIES AND MICROWAVE COMMUNICATIONS.**

**MINI SHOW FEATURING LATEST PRODUCTS
(APPX. 30-40 EXHIBITORS)**

(COMPLIMENTARY LUNCH SERVED)

**Details of the schedule and speakers and the topics will be posted on the IEEE North Jersey
section website by September 2023.**

Registration:

ATTENDEES: <https://events.vtools.ieee.org/m/482537>

EXHIBITORS: <https://events.vtools.ieee.org/m/473821>

For further information contact:

CHAIR - GENERAL-EXHIBITION: KIRIT DIXIT (201-669-7599), kdixit@ieee.org

**CHAIR – TECHNICAL PROGRAMS: GEORGE KANNELL (973-284-
3682), george.kannell@L3harris.com**

THERE IS NO CHARGE TO ATTEND THE SYMPOSIUM OR SHOW.

SAVE THE DATE

SOME UPDATES FROM IEEE Women in Engineering



2025 IEEE WIE FORUM EAST



The IEEE Women in Engineering (WIE) Forum USA East is dedicated to fostering leadership development for professionals at every career stage. Rotating between IEEE Region 1 and Region 2 in the Northeast USA, our forum offers attendees the chance to gain inspiration and empowerment from renowned leaders. Through dynamic workshops and engaging panel discussions, participants will explore emerging technologies and innovative STEM outreach initiatives.

Calendar of Events

Upcoming Events: August 2025 Onwards

| Title | Date | Location |
|--|-----------------------------|----------------------------|
| 2025 IEEE North Jersey Section Picnic: North Jersey Section | 02 Aug 2025 01:00 PM EDT | Bridgewater, New Jersey |
| Quantum Reinforcement Learning (QRL): Algorithms and Applications: Philadelphia Section | 07 Aug 2025 06:00 PM EDT | Virtual |
| Role of Microwave Technologies in Quantum Computing: North Jersey Section Jt Chapter, AP03/MTT17 | 12 Aug 2025 12:00 PM EDT | Virtual |
| Cybersecurity in the Age of AI: North Jersey Section Chapter, TEM14 | 14 Aug 2025 05:30 PM EDT | Virtual |
| Immersive experiences with XR: North Jersey Section Jt. Chapter, AP03/MTT17 | 19 Aug 2025 11:00 AM EDT | Virtual |

| Title | Date | Location |
|---|-----------------------------|---------------------|
| Rydberg Atomic Quantum Receiver (RAQR) Aided Wireless Communications and Sensing: Philadelphia Section | 21 Aug 2025 08:00 AM EDT | Virtual |
| 2025 Young Professionals Summit: Northeastern USA - Region 1 | 22 Aug 2025 05:00 PM EDT | New York, New York |
| Practical Techniques for Ensuring Power Integrity in High-Speed Designs: North Jersey Section Jt Chapter, AP03/MTT17 | 27 Aug 2025 01:00 PM EDT | Virtual |
| 2025 IEEE North Jersey Section September ExCom Meeting: North Jersey Section | 03 Sep 2025 06:30 PM EDT | Teaneck, New Jersey |
| Cybersecurity in the Age of AI: North Jersey Section Chapter, TEM14 | 04 Sep 2025 05:30 PM EDT | Virtual |
| IEEE NJACS 2025 - 13th Annual IEEE North Jersey Advanced Communications Symposium - Themes: Communications, Sensing, and AI (Zoom): North Jersey Section, EMB18 | 13 Sep 2025 01:00 PM EDT | Virtual |
| ALLSTaR - Automated LLM-Driven Scheduler Generation and Testing for Intent-Based RAN: Philadelphia Section | 18 Sep 2025 08:00 AM EDT | Virtual |
| Practical Generative AI: A Hands-On Introduction for Technical Professionals: North Jersey Section Chapter, COM 19 | 20 Sep 2025 01:30 PM EDT | Teaneck, New Jersey |
| Women in AI Series 2025 - Empowering LLMs for Scalable and Efficient Machine Programming: Guixiang Ma: Lehigh Valley Section Affinity Group, WIE | 23 Sep 2025 07:00 PM EDT | Virtual |

| Title | Date | Location |
|---|-----------------------------|-------------------------------------|
| 2025 IEEE Connecting the Unconnected North America Regional Summit (CTUS-NA'25): Princeton/Central Jersey Section | 26 Sep 2025 08:00 AM EDT | Washington DC, District of Columbia |
| Architecting Scalable AI Workflows with Apache Spark in Big Data Environments: North Jersey Section Chapter, C16 | 30 Sep 2025 01:00 PM EDT | Virtual |
| Quantum Machine Learning (QML): Quantum Architecture Search (QAS): Philadelphia Section | 02 Oct 2025 06:00 PM EDT | Virtual |
| 39th Annual Symposium and Mini-Show - Attendee Registration Site: North Jersey Section Jt Chapter, AP03/MTT17 | 09 Oct 2025 08:30 AM EDT | East Hanover, New Jersey |
| 39th Annual Symposium and Mini-Show - Exhibitor Registration Site: North Jersey Section Jt Chapter, AP03/MTT17 | 09 Oct 2025 08:30 AM EDT | East Hanover, New Jersey |
| Women in AI Series 2025 - Artificial Intelligence in Journalism: Christen Smith: Lehigh Valley Section Affinity Group, WIE | 28 Oct 2025 07:00 PM EDT | Virtual |
| Women in AI Series 2025 - AI in Education: Dr. Paula Lauren: Lehigh Valley Section Affinity Group, WIE | 25 Nov 2025 07:00 PM EST | Virtual |
| 2025-Fall IEEE Metropolitan AI Applications Symposium (META) [Friday December 12th 2025 @12:00PM Zoom 506 875 4099]: North Jersey Section | 12 Dec 2025 12:00 PM EST | Virtual |

[For Past Month's Events – JUNE-JULY 2025 - Click Here](#)

[Click Here: For a List of the 2025 IEEE North Jersey Section Volunteers](#)