Art Nordlinger, PE, Senior Member

The Steps to Professional Licensure, Part 2

In my last column I discussed the beginning of the route to get your Professional Engineer license; taking the FE exam. This month I will focus on the next step, experience required and being an Engineering Intern (EI).

If an EI graduated with 4-year engineering degree, they must obtain 48 months of experience to qualify to apply to be a PE. The Florida Legislature recently changed the law such that an EI graduating with an approved Engineering Technology degree will need to complete 72 months of experience before being qualified to apply to be a PE.

What qualifies as experience? The type of employment considered acceptable must principally involve activities in the field of engineering as defined in Section 471.005(7), F.S. What qualifies as “experience” is found in 61G15-20.002, F.A.C. - Experience. Some criteria considered for meeting the requirement includes:

- Experience that logically follows and incorporates an application of the engineering education previously obtained.
- Full-time experience obtained within 2 years of completing the engineering degree, that involves tasks and responsibilities consistent with the disciplines of engineering. Pre-graduation experience credit may be awarded at 50% of actual time, with total allowable credit for pre-graduation experience to not exceed 12 months.
- Experience on engineering projects that is progressive in nature, indicating an increase in quality and involving greater responsibility.

Continued on Page 2
Continued from Page 1

Experience gained under the supervision of a licensed professional engineer.

Experience gained in engineering research and design projects by members of an engineering faculty where the program is approved by the Board.

Experience that includes demonstration of a knowledge of engineering, mathematics, physical and applied science, properties of materials, and the fundamental principles of engineering design.

Experience that includes demonstration of the application of engineering principles in the practical solution of engineering problems.

A masters or doctorate engineering degree can count as 1-year of experience.

Additionally, an applicant must list three (3) personal references who are professional engineers. These references cannot be the same individuals used to verify employment and experience.

To learn more about the examination and application process for the FE and PE exams go to the Application Process page under the Licensure section of FBPE’s website at www.fbpe.org. If you have questions related to qualifying experience contact the Board office at (850) 521-0500 and ask to speak to someone in the Licensure department.

Next month I’ll discuss the final step to licensure, the PE exam.

Whether you are a PE looking to attain required CEHs, or an engineer looking to learn something new or keep current with the latest trend in the profession, IEEE has seminars that will meet your needs.

IEEE FWCS ExCom

CHAIR: Michael Mayor, michael.mayor@ieee.org
(484) 524-3264
VICE CHAIR: Andrew Seely, andrew.seely@ieee.org
(813) 368-6002
SECRETARY: Chung Seop Jeong, PhD, jeong@ieee.org
PAST CHAIR: Paul Belussi, paul.belussi.us@ieee.org
(727) 418-5272
TREASURER: Claude Pitts, claude.pitts@ieee.org

WEB PAGE: https://r3.ieee.org/fwc/
TECO Big Bend Modernization Tour
On September 29th, the IEEE Florida West Coast Section, in collaboration with TECO Energy, experienced a great tour of the TECO Big Bend Modernization Combined Cycle Project. The Project was completed on Dec. 16th of 2022 and can produce 1,090 MW, enough energy to power more than 250,000 homes.

Florida West Coast PES/IAS on the Map!
Your IEEE Florida West Coast Section PES/IAS Joint Chapter was recognized for its efforts in 2022 and earned the top award out of all of Region 3 and Florida and was tied for top 5 in the world. The award for Outstanding Chapter brought in $840 for the chapters use in future events. Currently the chapter is trending nicely to meet or beat that award for efforts in 2023. This is just another way chapter Members can feel confident in the value the chapter brings is first class as compared to PES/IAS chapters across the globe!

Slate of Chapter Officers
Outgoing Officers:
Robert DeMelo - Chair
Kayla Allemang – Secretary

Slate of Incoming Officers:
Kayla Allemang – Chair
Ryan Copley – Vice Chair
Regan Sink – Secretary

Voting for the incoming officers will begin on November 6th in vTools and run to November 20th. Please vote and support your chapter officers!
What is a Substation?

Electrical substations are an integral part of our electric grid that allows the efficient transmission of electricity from power plants to customer locations. Ever wonder what is inside an electrical substation? The IEEE Florida West Coast Section Women in Engineering (WIE) affinity group and Power & Energy Society (PES), in collaboration with Lakeland Electric (LE), are excited to offer this tour of a distribution substation. This tour event will include a 1-hour in-classroom presentation to go over the basic functions of the different types of equipment in a distribution substation, as well as their role in protecting the system during faults or failures.

After the presentation, and a discussion of safety precautions, the event will proceed with an outdoor walk-through of one of Lakeland Electric’s 230/69/12kV substation facilities where attendees can learn to identify the different types of equipment, view inside the control house, and ask any questions they may have. This event will be perfect for those with little to no knowledge of substations or students interested in the power industry.

Please email Ariana McGuirk at amcguirk@ieee.org if you will need a hard hat, safety glasses, or dielectric overshoes (please state shoe size in email request).

Continued on Page 5
Continued from Page 4

TRANSPORTATION: The in-class presentation portion of this event will be held at Lakeland Electric administration building in downtown Lakeland, FL. The outdoor substation facility is a 10-15 min drive from the administration building. Attendees must have their own transportation between the in-class portion to the outdoor substation. Parking is available at or near both locations. A map and directions to these locations will be provided to those that register.

FACILITIES REFRESHMENTS: Please check in with the front desk security guard when entering the administration building. Light snacks, bottled water, and restrooms will be available during the in-class portion. No bathroom facilities at substation location.

**Ariana McGuirk** is a substation engineer at Lakeland Electric, a municipal utility in central Florida, where she handles the planning and design of various projects needed to support the electric power facilities. In her six years in the substation department, she has prepared engineering plans, specifications, protection and control schematics, relay settings, and cost estimates for additions, modifications, or upgrades to substation facilities. She recently completed her role as project manager for the construction of Lakeland Electric’s newest distribution substation. However, her professional interests have been in power system protection and relay event analysis.

Ariana earned a Bachelor of Science in electrical engineering from the University of South Florida. She was actively involved in IEEE throughout college and is currently secretary of the IEEE Women in Engineering (WIE) affinity group of the Florida West Coast section.

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**Senior Member Roundup**
Saturday, November 4, 12:00 pm - 4:00pm
https://events.vtools.ieee.org/m/371610
Check the Website Calendar (right hand column):
https://r3.ieee.org/fwcs/
Contact / Questions:
andrew.seely@ieee.org
hermann.amaya.us@ieee.org

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**IEEE FWCS PES/IAS Chapter Officer Training in Coordination with WIE**
Thursday, November 9, 8:00 pm – 9:00 pm
Virtual
https://events.vtools.ieee.org/m/365336
Contact/Questions: Robert DeMelo, robert.demelo@ieee.org

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**IEEE FWCS PES/IAS ExCom**
Thursday, November 30, 6:30 am – 7:30 am
Virtual
https://events.vtools.ieee.org/m/333500
Contact/Questions: Robert DeMelo, robert.demelo@ieee.org
In the past decade, multiple stakeholder organizations have published documents forecasting and making recommendations about the electric industry's future. The GridWise® Architecture Council (GWAC), a group convened by the U.S. Dept. of Energy, chartered a project to assess the electric industry vision and future state assessment documents and determine how aligned these views of the future are.

The project objectives were to identify:

- Stakeholders' vision and future states for the electric industry and grid,
- Their similarities, differences, divergences, and stakeholder impacts, and
- Architectural challenge-gap categories for potential multi-stakeholder organization coordination and collaboration opportunities.

The GWAC identified six major architectural challenges or gap areas during assessing and characterizing ten vision and future state reports from nine organizations:

- Developing new industry structures
- Transitioning from centralized to distributed
- Transitioning from silos to platforms
- Developing effective data communications enabling control and coordination in distributed structures
- Standardizing Interfaces and structures
- Accommodating large quantities of DER with new structures

These must be addressed to achieve the vision of the future grid described in the ten reports, so how do we get there? In addition to traditional forward analysis, the importance of using a structured "future back" approach will be discussed.

Finally, Grid Architecture will be defined and its importance as a tool in this process will be discussed, along with a description of the GWAC's Interoperability Framework and its continued relevance.
Electronic Systems and Instrumentation Applications

Date: Thursday, November 16, 2023
Time: 6:00 pm - 7:30 pm (EST/EDT)
Speaker: Michael Mayor, MSE, PE
Location: Online – meeting invitation will be emailed to attendees prior to meeting
Cost: Free
CEH Credits: No CEH’s provided for this event.
RSVP: Online at: https://events.vtools.ieee.org/m/377745
Questions: Michael Mayor, michael.mayor@ieee.org

Abstract: This is an overview of Electronic Systems and Instrumentation Applications. Starting with a brief history and key players the presentation will cover key Signal Processing developments and tools used in the development of Medical and Industrial Instrumentation. This presentation will cover the invention and development of the Computed Tomography (CT) Scan, formerly known as Computed Axial Tomography (CAT) Scan and two of the major applications, Medical Imaging and Industrial Applications. The CT scan is one of the many key applications of Signal Processing and it is unique because it merited one of its inventors, Sir Godfrey Hounsfield, a British Electrical Engineer, the Nobel Prize in Physiology or Medicine 1979.

Biography, Michael Mayor, MSE, PE is an Independent Consultant providing Systems Engineering Services to the Aerospace and Defense Industries in the areas of Secure Information Systems and Secure Communication Networks.


Previously, as Technical Director and Principal Engineer he conducted the Design, Development, Field Testing applying Instrumentation and Measurement Technology and, in some instances, Deployment Support, of Secure Communications, Signals Intelligence and Emitter Geolocation Systems.

He authored six patents in Spread Spectrum Communications and Digital Instrumentation. He received the ITT Defense & Electronics Engineered for Life Award, for his technical contributions in Communications, Geolocation and Microelectronics.

He is an IEEE Life Senior Member and holds a Master of Science in Engineering (MSE) from the School of Engineering and Applied Sciences at the University of Pennsylvania. He is a Licensed Professional Engineer (PE) in the State of VA, and a member of the National Society of Professional Engineers (NSPE).
Entrepreneurship Series Webinar #3
AI will not take our jobs away. Humans using AI will.

Date: Friday, December 1, 2023
Time: Webinar: 12:00PM – 1:00PM (EST/EDT)
Speaker: Talha Masood – Co-founder & CTO – Remotebase
Location: Online – meeting invitation will be emailed to attendees prior to seminar
Cost: Free
CEH Credits: No CEH’s provided for this event.
RSVP: Online at: https://events.vtools.ieee.org/m/376192
Questions: Diane Aristizabal, dianaaristizabal@ieee.org

Abstract: In this webinar, our invited speaker, Talha Masood, will talk about how to adopt AI instead of running away from it. The Industrial revolution did not replace human need. We had more jobs, but different from the conventional ones at the time. AI right now is at its inflection point. Let's get together to see how it can get our professional lives on steroids.

Talha will share some AI tools and the way they can improve productivity, his personal AI adoption journey, and how it led to a few side hustles. He will also give advice on how you can start a part time career in AI as prompt engineers and make a lot of money giving AI instructions.

Our speaker will bring AI knowledge from Silicon Valley to us via this webinar. He is right in the middle of an AI revolution as it is happening!

Biography

Biography: Talha Masood, Co-Founder and CTO Remotebase. Talha has been working remotely since 2014. His startup Remotebase raised 1.3 million dollars last year. Remotebase places software engineers from underdeveloped countries into Silicon Valley based startups.
Date: Friday, January 19, 2024  
Time: Webinar: 12:00PM – 1:00PM (EST/EDT)  
Speaker: Olu Fagbemiro – Founder, President – Aneden Consulting Inc.  
Location: Online – meeting invitation will be emailed to attendees prior to seminar  
Cost: Free  
CEH Credits: No CEH’s provided for this event.  
RSVP: Online at:  
Questions: Kayla Allemang, kallemang@ieee.org

Abstract: Embarking on an entrepreneurial journey is an exciting yet challenging endeavor. In this presentation, Olu Fagbemiro will explore the critical phases of starting and running a new business. Before taking the leap into entrepreneurship, thorough preparation is essential. Olu will delve into the key steps to consider before quitting your current job, including:

- Developing a compelling business idea
- Financial planning and budgeting
- Navigating practical steps to setting up a business and running a startup
- Navigating legal requirements
- Building valuable networks

Join Olu Fagbemiro as she embarks on this journey, gaining insights into how to navigate challenges and harness the power of relationships to pave the way for your entrepreneurial success. Whether you're considering taking the plunge or are already on your entrepreneurial path, this presentation will provide valuable guidance and inspiration.

Biography: In 2017, Olu Fagbemiro founded Aneden Consulting, Inc., a certified woman-owned and minority-owned Small Business (WBE/ WBOSS/WBE), an engineering consulting firm providing services to the electric utility and energy industries. Aneden Consulting’s primary focus is on accelerating its clients’ success. The firm specializes in conducting electric transmission system planning and generation interconnection studies for leading RTOs, public utilities, independent power producers, and renewable energy developers.

Olu Fagbemiro has over 19 years of planning experience, completing numerous transmission planning, NERC Compliance, load interconnection, generation interconnection, and power system studies. Olu has expertise in managing multiple transmission expansion and generation interconnection studies, computer programming, automation tool development, and multiple planning software. Before Aneden Consulting, Olu was a Department Manager for Burns & McDonnell’s system planning team in Houston, Texas.

In November 2018, after experiencing fertility struggles while starting her own family, Olu founded Aneden Gives, a non-profit organization that believes that fertility treatments should be accessible to all. Aneden Gives provides financial support to families going through their fertility journey. Aneden Gives offers families hope, building families and fulfilling dreams.

In 2012, Olu earned her MBA in Corporate Finance and Strategy from Emory University Goizueta Business School and her BSc. in Electrical Engineering and PDSc. in Computer Science from the University of Saskatchewan in 2004.

Olu lives in Seattle, WA, with her husband and two young children. She is an avid marathon runner and loves to travel with her family.
Over the past months, the incredible team of the summit have been hard at work, putting together a summit like no other. It's been an exhilarating journey filled with challenges and late nights, but today, I am proud to announce that we've successfully organized the IEEE-CS Tech Horizons Summit 2023. Notably, this is the first-ever event of this scale for all three organizing branches, showcasing the remarkable transformation from a simple idea to the actual day of the event.

The IEEE-CS Tech Horizons Summit 2023 brought together some of the brightest minds and passionate individuals from diverse backgrounds to discuss and exchange ideas on the future of the field of computer science. From inspiring keynote speaker to engaging panel discussions, we created a platform for meaningful conversations and networking opportunities.

A special thank you goes to our remarkable speakers who shared their expertise, insights, and inspiration with us at the IEEE-CS Tech Horizons Summit 2023. Your contributions added depth and value to our event, and we are truly honored to have had you with us.

The keynote presenter for this event was Jyotika Athavael, the President-Elect of the IEEE Computer Society. Jyotika’s presentation covered the technology predictions that have been assembled by the Computer Society. She also took questions from the college students who attended the summit.

Dr. John Licato from the University of South Florida’s (USF) Computer Science department and the Advancing Machine and Human Reasoning (AMHR) Lab provided a presentation entitled “How Well Can AI Models Actually Reason?” During his presentation he talked about about the impact of AI tools such as #ChatGBT. Dr. Licato points out that although these tools a very good at some things, there are other things that they completely drop the ball doing. He explains why Large Language Models (LLMs) are good at certain tasks, but if we aren’t careful how they can become corrupted and fail at other tasks.

Dr. Mohammad Reza from Florida Polytechnic University gave a talk about Empowering The Cybersecurity Workforce. In his talk, Dr. Reza provides an overview of how the academic program at Polytech has been enhanced to help create well-trained future #cybersecurity workers. Dr. Reza provides an overview of the current cybersecurity market and then talks about the cybersecurity tracks that are available at Polytech. He reviews the development of a cybersecurity lab at Polytech and discusses how students can use the lab to get a degree from Polytech.

Dr. Mubarak Banisakher from Hillsborough Community College gave a talk about Building A New Career Pathway In Cloud Computing and AI. Dr. Banisakher provides an overview of his program to help students at the Hillsborough Community College (HCC) build a new career pathway in cloud computing and AI with the engagement of a Business Industry Leadership Team (BILT). Dr. Banisakher points out that there is currently a real need for more cloud computing / AI workers. He has reached out to local businesses to find out specifically what their needs are for future workers. He has created a Business Industry Leadership Team (BILT) made up of local employers to help HCC design a program that will provide students with the cloud computing skills that they will need to be successful. BILT members meet with students and provide them with direction.

Meeting Announcement: https://events.vtools.ieee.org/m/366411

Continued on Page 11
Two of the panels were the best experience as reflected by attendees. The industry panel covered a range of key topics. These included the debate over cloud migration’s cost-effectiveness (Antra Malhotra), security concerns (Kevin Bommer), and regulatory challenges in healthcare data storage (Thomas Carey). Joe Blankenship discussed the transformative potential of AI-driven applications, while Antra Malhotra raised ethical concerns about service providers cutting off internet access based on users’ actions. Kevin Bommer outlined steps to address security breaches, and Thomas Carey considered the future of sharing medical data.

Additionally, they discussed ways to reduce companies’ vulnerability to cyberattacks (Kevin Bommer) and the impact of AI software on the job market (Joe Blankenship), as well as the need to balance free speech and combat misinformation (Thomas Carey).

The student leadership panel discussed AI’s impact on entry-level tech jobs, stressed the need for lifelong learning, highlighted the importance of soft skills, teamwork, and dealing with workplace failure. They explored transitioning from technical to managerial roles, choosing industries, and pursuing certifications.

The conversation also touched on ethical considerations when selecting employers and the potential for internal change, providing insights into technology and engineering careers.

Let’s continue to strive for excellence, push boundaries, and inspire one another as we embark on this journey together. Our team hopes to see you on the IEEE-CS Tech Horizons Summit 2024!

Mykyta (Nick) Nechaiev
USF CS Chapter Chair
IEEE, an organization dedicated to advancing innovation and technological excellence for the benefit of humanity, is the world's largest technical professional society. It is designed to serve professionals involved in all aspects of the electrical, electronic, and computing fields and related areas of science and technology that underpin modern civilization.

IEEE's roots go back to 1884 when electricity began to become a major influence in society. There was one major established electrical industry, the telegraph, which since the 1840s had come to connect the world with a data communications system faster than the speed of transportation. The telephone and electric power and light industries had just gotten underway.

The Florida West Coast Section (FWCS) was first organized on February 1st, 1952, as the American Institute of Electrical Engineers (AIEE) Tampa Section. The Institute of Radio Engineers (IRE) chartered its Florida West Coast Section on November 14, 1956. When joined together on January 1st, 1963, by the merger of AIEE and IRE into the IEEE, the Section retained the Florida West Coast name. Today the FWCS serves nearly 2,000 IEEE members, including 40 Fellows and Life Fellows and over 400 Senior and Life Senior Members.

The FWCS Senior Member Elevation Committee (SMEC) was officially established on September 4th, 2018, by direction of the FWCS Executive Committee.

https://events.vtools.ieee.org/m/373087

Continued on Page 13
### IEEE FWCS Year End Gala

#### Program of Events

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Speaker/Chair</th>
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<tr>
<td>1700</td>
<td>Registration check-in and no-host social</td>
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<td>1730</td>
<td>Program Begins - Dr. Bhuvan Calling to Order</td>
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<td>1735</td>
<td>Opening remarks</td>
<td>Michael Mayor, FWCS Chair</td>
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<td>1745</td>
<td>First speaker Introduction</td>
<td>Dr. Issac Barpal, IEEE Fellow</td>
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<td>Dr. Dennis K. Killinger, IEEE Fellow</td>
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<td>Dr. Prabhakar Pathak, Life Senior Member and IEEE Fellow</td>
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<td>1925</td>
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<td>Dr. Ricardo J. Rodriguez, Senior Member and IEEE Fellow</td>
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<td>1950</td>
<td>Awards presentations</td>
<td>Michael Mayor, FWCS Chair, and Hermann Amaya, FWCS SMEC Chair</td>
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<td>2005</td>
<td>Student and Senior Member Interviews Project Recognition</td>
<td>Andrew Seely, Senior Member, FWCS Vice Chair, Region 3 Senior Membership Coordinator</td>
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<td>2020</td>
<td>Closing remarks</td>
<td>Andrew Seely, Senior Member, FWCS Vice Chair, Region 3 Senior Membership Coordinator</td>
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<td>2100</td>
<td>Gala concludes</td>
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## November 2023 - Calendar of Events (For more information see "Inside the SunCoast Signal" → Page 1)

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<td>*PES/IAS ExCom Page 5</td>
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*Thanksgiving Day*

*For more information see "Inside the SunCoast Signal" → Page 1*