

REFLECTIVE ELECTRICAL ENGINEERING LEARNING (REEL2026)

Building Skills and Professionalism through
Industrial Training

SKILLS



REEL2026
Reflective
Electrical Engineering Learning

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BUILDING SKILLS AND PROFESSIONALISM THROUGH INDUSTRIAL TRAINING



REEL 2026

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*"Building Skills and Professionalism
through Industrial Training"*

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*Reflection transforms
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Exploring Electric Vehicle Innovation: My Internship Experience with Malaysia's First EV Tractor Project

Farah Dayana binti Zamri, *Wan Salha binti Saidon
Faculty of Electrical Engineering, Universiti Teknologi MARA Cawangan Pulau Pinang,
Permatang Pauh, Malaysia

*Corresponding author's email: wansalha@uitm.edu.my

Industrial training is an important aspect of an engineering student's education because it helps to connect what students learn in class with what happens in the real world. This post is about my internship at MKR HARTMAS SDN. BHD., which makes Electric Vehicle (EV) tractors, the first of their kind in Malaysia. During my internship, I focused on learning about the Tractor EV, as well as the engineering projects the company undertakes, including site supervision, power distribution, and technical documentation preparation.

As part of my Diploma in Electrical Engineering (Power) at Universiti Teknologi MARA, my industrial training at MKR HARTMAS SDN BHD provided an opportunity to learn about the first Electric Vehicle (EV) tractor. This new product not only shows how the company is a leader in the agricultural and industrial sectors, but it also gives us a look at what the future of eco-friendly machinery might look like. This experience with the newest technologies helped me connect what I learnt throughout my diploma to learn more about these batteries, because I used them for my FYP project.



Figure 1: Tractor EV Visit and Learning at UPM

I also helped install GPS systems on the EV tractors. This meant working with the IGN ignition mechanism that powers the GPS unit. This hands-on experience taught me how modern machines use integrated systems like navigation and operational monitoring. It also showed how data such as the battery voltage, where real-time monitoring can make operations run more smoothly and in good condition.

Besides the EV tractor, I also worked on other projects where I helped supervise site work, focusing on how the electrical network manages power distribution from the Low Voltage Room (LV room) to the riser room, which is a very important aspect of the network. This

taught me how to distribute power in factories, why regulatory standards are important, and how engineers make sure electricity is distributed safely and efficiently. Safety was a big part of my training, especially while I was working on-site and doing things like pulling cables. I learned about the safety steps and tools I needed to do these jobs, like wearing personal protective equipment (PPE) and staying a safe distance from live systems.



Figure 2: GPS Installation Activities at UPM



Figure 3: Site Work at LV Room at AMC Building, KLIA

From an academic point of view, my industrial training helped me use what I learned in my electrical engineering classes in real life. Learning about power distribution systems and how to follow the rules was very important for me to learn more about electrical engineering. Also, working on the EV tractor project gave me a chance to learn about technology and get a better understanding of the ever-changing sector of sustainable energy solutions. Working on things like installing GPS and managing power in farm machinery gave me a better idea of how engineering solutions are used in many fields, like farming and transportation. It also showed how important it is for electrical engineers, mechanical engineers, and IT professionals to work together to create and improve modern machines.

In conclusion, my industrial training at MKR HARTMAS SDN. BHD. was a great way to learn new things and improve my technical skills and professional growth. Working on the EV tractor project was a great opportunity to engage with innovative, sustainable technology and observe firsthand the challenges and benefits of integrating electric power into agricultural machinery. The skills I gained during this internship will undoubtedly shape my

future career and equip me to contribute to the growing field of sustainable energy and engineering solutions.

Authors' Biography



Farah Dayana binti Zamri is a dedicated student pursuing a Diploma in Electrical Engineering (Power) at Universiti Teknologi MARA (UiTM) Cawangan Pulau Pinang. As part of her academic journey, Farah is currently undergoing an internship at MKR HARTAMAS SDN BHD from 2nd March to 10th July 2026. This hands-on experience allows her to apply theoretical knowledge in a real-world setting. With an interest in technological advancements, Farah aims to contribute meaningfully to industry and to become a skilled professional in electrical engineering.



Wan Salha binti Saidon has been working in Universiti Teknologi MARA (UiTM) Permatang Pauh since February 1998, having a long experience in electrical engineering. She received a Bachelor of Science in Electrical Engineering (Hons) degree from the University of Missouri. Her speciality is in technology engineering, especially electrical and electronic engineering. She is a member of the Energy and Environment (EE) research nexus at UiTM, and her research focuses on electrical and electronic engineering.

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