

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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Building Skills and Professionalism through Industrial Training: A Hands-on Experience in Engine System Troubleshooting

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Industrial training has played a significant role in shaping the journey of every engineering student, including myself. As a final-year Diploma student in Electrical Engineering (Electronics) from UiTM Permatang Pauh, I had the opportunity to undergo a four-month internship at BBV Engineering, a company specializing in marine engine systems and maintenance. Reflecting on this experience, it turned out to be more practical and challenging than I initially expected, allowing me to better understand my strengths, areas for improvement, and future career direction.



Figure 1: Local Operating Panel (LOP) Used for Engine Control and Monitoring

Throughout my internship, I was exposed to real-world engineering tasks, particularly involving diesel engine systems, electronic control units, and sensor-based monitoring systems. This experience allowed me to apply the theoretical knowledge I had learned in classroom to actual industrial applications. Over time, I gained valuable insights into engine operations, troubleshooting techniques, and the importance of precision in handling technical equipment. These experiences not only enhanced my technical skills but also contributed significantly to my personal and professional development. One of my main responsibilities as an intern was assisting in engine inspection and maintenance, including checking battery voltage using a multimeter, reconnecting sensors according to the technical manual, and preparing equipment such as the Local Operating Panel (LOP) before engine testing. Some of these tasks were new to me, but with guidance from my supervisors and technicians, I was able to understand the procedures step by step. These tasks required precision, focus, and patience, and over time, I became more confident in handling tools and equipment.

In addition, I had the opportunity to use the LOP to manually control engine operations. This included monitoring sensor data such as temperature, pressure, and speed while adjusting the engine RPM. I learned how to determine whether an engine was safe to operate based on sensor readings, and how automatic shutdown systems function when limits are exceeded. This hands-on experience helped me understand the importance of safety systems in preventing engine failure.



Figure 2: Disassembled Starter Motor Components During the Inspection Process



Figure 3: Learning the External Part and the System Engine

Despite the valuable learning opportunities, I also faced several challenges during my internship. One of the main challenges was adapting to a new working environment and understanding tasks that were not covered in academic studies. At times, I found it difficult to communicate confidently with experienced technicians and supervisors. However, over time, I improved by asking questions, observing closely, and actively participating in tasks. This helped me build confidence and improve my communication skills in a professional setting.

This internship taught me that technical knowledge alone is not sufficient. Skills such as teamwork, communication, and adaptability are equally important to ensure smooth operations in the workplace. Problem-solving skills are also essential, especially when

dealing with unexpected technical issues that require quick and accurate decisions. Furthermore, I realized the importance of continuous learning, as engineering technologies are constantly evolving and require individuals to stay updated.

In conclusion, my industrial training experience has been highly beneficial and meaningful. It provided me with hands-on exposure to real engineering work, improved my technical and soft skills, and prepared me for future challenges in the engineering field. This experience has motivated me to continue learning and developing myself to become a more competent and professional engineer in future.

Authors' Biography



Muhammad Al-Hanif bin Noh Muhamad 'Adlan is a student pursuing a Diploma in Electrical Engineering (Electronics) at Universiti Teknologi MARA (UiTM) Cawangan Pulau Pinang. He is currently undergoing his internship at BBV Engineering (M) Sdn. Bhd. from 2nd March 2026 to 20th June 2026. During his internship, he has gained hands-on experience in diesel engine systems, including basic maintenance, sensor installation, troubleshooting, and using the Local Operating Panel (LOP). This experience has helped him improve his technical skills and understanding of real industrial work.



Faridah binti Abdul Razak has been serving as a lecturer at Universiti Teknologi MARA (UiTM) Penang since 2004. She holds a Bachelor's Degree in Telecommunication Engineering from Fachhochschule Konstanz, Germany. Prior to joining academia, she gained industry experience as an engineer for one year. She later pursued and completed her Master of Science at Universiti Sains Malaysia (USM), Penang. Her areas of interest include telecommunication systems, image processing and engineering education.

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