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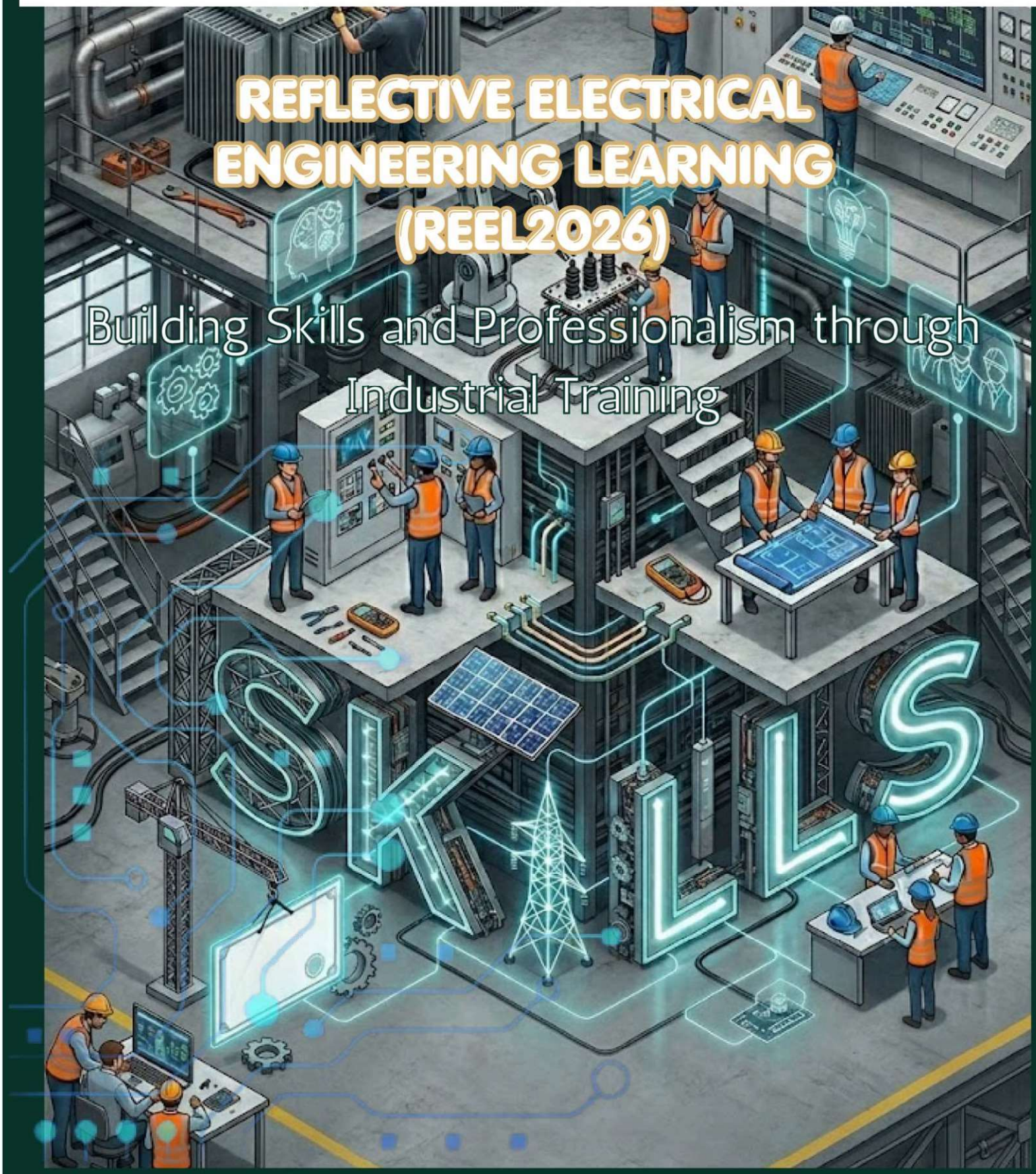

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"Building Skills and Professionalism through Industrial Training"

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Reflection transforms experience into meaningful learning

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A Reflective Study on Industrial Training Experience

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Industrial training serves as an important element in learning processes of electrical engineering because it offers practical exposure to the workplace environment and enables students to apply knowledge gained from university to the industry. This article will focus on discussing the author's personal experience of industrial training related to air conditioning installation and maintenance process.

During my industrial training I had hands-on exposure to servicing and installation processes associated with split unit air conditioners. Through this process I got insight into how the electrical system operates in practice. I was assigned the job of assisting technicians in performing maintenance and installation activities. The activities included wiring, checking the performance of the system, servicing indoor and outdoor units of the split air conditioners daily. Additionally, I followed the technicians closely to understand the operations of the system and how each electrical part contributes to the operation of the whole unit.

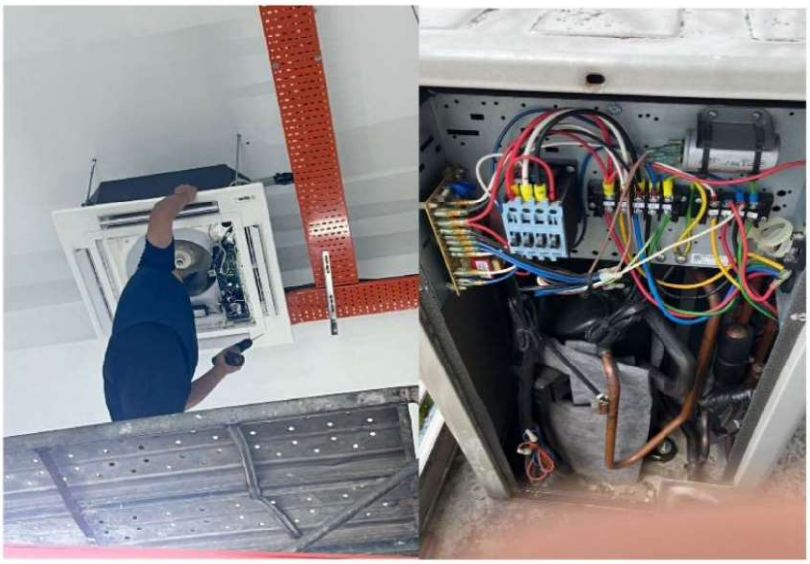

Figure 1: Airconditioning Servicing

One of the most important technical skills gained was how capacitors operate in the outdoor air conditioning units. First, I realized that the system consists of two types of capacitors, namely capacitors for fan motor and another for compressor. To ensure proper system performance, each capacitor must satisfy the required capacitance specifications. In addition, I learned to identify defective capacitors and replace them safely, which involves isolating the power supply, discharging the capacitor, and installing a new component. I believe that such experience enabled me to know more about electrical parts and their operation.

Furthermore, I was introduced to the method of using clamp meter to measure the currents in the outdoor air conditioner unit. A clamp meter can be used to measure the current (amperage) flowing in a system to determine whether it is operating optimally. This skill is essential for diagnosing issues such as overcurrent, compressor failure, or system inefficiency.

(a) (b) (c)

Figure 2: (a) Capacitor for Compressor, (b) Capacitor for Outdoor Fan, and (c) Clamp Meter

Installation activities taught me how to install the indoor plug point for the air conditioner. This activity includes wiring, selection of appropriate cables and safety connection of electric currents. During installation I was involved in wiring activities, I handled wiring of indoor and outdoor parts, including wiring of power supply, communication wires and other related activities.

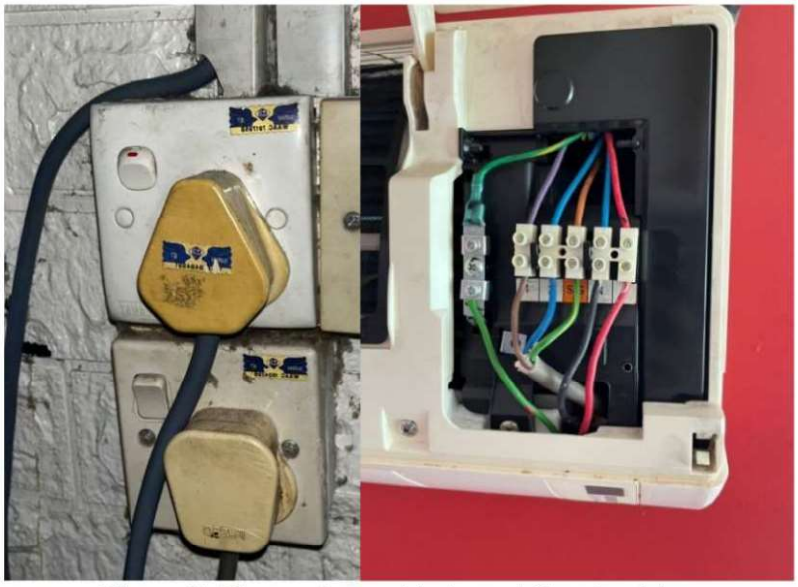

Figure 3: Plug point and indoor AC unit wiring

Initially when I started industrial training, I faced difficulties in understanding technicalities of the tasks and the process in general. However, with the assistance of experienced technicians, I gradually mastered the process. Not only did I gain technical skills, but I also

learned the importance of teamwork, communication, and adherence to safety procedures during the execution of my duties.

Industrial training offers great opportunity for gaining real-life experiences in engineering. I gained practical experience in servicing, troubleshooting and installation of air conditioning units and this helped me to improve my knowledge and skills as an aspiring electrical engineer.

Authors' Biography

Ahmad Shafi'e Mohd Shaifuliza is currently a diploma student studying at Universiti Teknologi MARA (UiTM). As a requirement of my study, I'm undertaking industrial training at Aircond Hero located at Bukit Damansara. Through this process I get hands-on experience in maintenance and installation of air conditioner units. I have gained experience in handling electricity, measuring current using clamp meter, wiring, installing indoor and outdoor unit air conditioner. I have improved my knowledge and skills in electrical engineering through this internship experience.

Ir. Ts. Abdul Malek Saidina Omar born in Malaysia on January 14th, 1983. Obtained Bachelor Degree of Electrical Engineering (Hons) from Universiti Tun Hussein Onn Malaysia (UTHM) in 2006 and holds Master of Science in Electrical Power Systems from University of Birmingham United Kingdom in 2014. My main research interests are on Power System Protection and Artificial Intelligent. Currently a Senior Lecturer at Faculty of Electrical Engineering, Universiti Teknologi MARA (UiTM) Malaysia since November 2015.

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