LU TRUNG TIN

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EDUCATION

Ho Chi Minh City University of Technology (HCMUT) – VNU HCM Ho Chi Minh, Vietnam
Bachelor of Engineering (Control and Automation Engineering) 2021-2025
Cumulative GPA: 3.70 /4.00

- Honors: **Excellent Graduation**, Semifinals in Eureka Scientific Research Student Awards (2023), Student of the **Honor Program** (The program for the top 3% students of the Department of Electrical Engineering).
- Relevant coursework: Control and Applications of Power Electronic Converters; Motor Control; Fundamentals of Control Systems; Advanced Control Theory.

ACHIEVEMENTS

2021 - 2025	4 Semester Scholarship by Ho Chi Minh University of Technology
January, 2024	Scholarship organized by BCONS Group
July, 2025	Scholarship organized by Vietnam Electricity (EVN)

RESEARCH EXPERIENCE

National Cheng Kung University
Electric Machine and Drive System Laboratory Tainan, Taiwan
Advisor: Prof. Min-Fu Hsieh
Research Internship July 2025 – September 2025

Main works:

- Develop a control firmware to apply **Field Oriented Control** (FOC) and **Max Torque Per Ampere** (MTPA) in **Universal Drive Project** using C2000 F28379D microprocessor.
- Develop an overcurrent protection module for **Universal Drive Project**.

Ho Chi Minh City University of Technology (HCMUT)
Power Electronics Research Laboratory Ho Chi Minh, Vietnam
Advisor: Dr. Pham Minh Duc
Researcher 2023 - 2025

Main works:

- **Sensorless PMSM control**: Research advance sliding mode observer (SMO) for sensorless PMSM control
- **Adaptive PMSM speed control**: Research project is focused on applying adaptive sliding mode control using Radial Basic Function (RBF) Neuron Network to improve the precision of speed control of SPMSM under various load.
- **Model Predictive Control (MPC) for three-level T-Type inverter Integrated with External RLC Estimation:** Developed and applied MPC algorithms to reduce the total harmonic distortion (THD) of the output current and to maintain the stability of the common-mode voltage in a three-level T-Type inverter system.
- **Fuzzy Logic Control for inverter pendulum:** Propose advance control law for controlling the stability of the inverted pendulum.

ITRVN Ho Chi Minh, Vietnam

Internship July – August, 2024

Main works:

- Designed and developed firmware for a **smart pixel clock**, integrating real-time data display with customizable LED animations for enhanced visual appeal and user interaction.

PUBLICATION

- **Advanced Sliding Sensor-Less Speed Control of PMSM Driving System Using Enhanced Sliding Mode Observer**
  This paper is reported at The International Conference on Computational Intelligence in Engineering Science 2025 (ICCIES 2025).
- **Enhanced fuzzy logic control for overcoming intrinsic resistance in inverted pendulum systems**
  This paper is published in TELKOMNIKA Telecommunication, Computing, Electronics and Control. (Q3 Journal)
- **Coordinated Control of Three-Level T-Type Inverter for Renewable Energy Applications: Integrating Predictive Control with External RLC Estimation**
  This paper is reported at The 7th International Conference on Green Technology and Sustainable Development (7th GTSD 2024).

LEADERSHIP & VOLUNTEER EXPERIENCE

"Chung Ta Cung Tien" Club Ho Chi Minh, Vietnam
Member of the Teaching group 2021 - 2023

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Gia Su Ao Xanh – Summer volunteer campaign Ho Chi Minh, Vietnam
Head of Campaign 2022 - 2023

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SKILLS & INTERESTS

- Programming: Python (numpy, Matplotlib, OpenCV), C/C++, LaTeX, MATLAB/Simulink.
- Language: **English** (TOEIC L&R 870/990), IELTS 6.0.
- Microcontroller: AVR, ARM, C2000.