IMMANUEL RAYNALDO S

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A passionate tinkerer and engineer who loves to design, build, and play with robots. Experienced in robotics, industrial automation, and embedded systems. Dedicated to pushing the boundaries of technology through hands-on experimentation and innovation.

EDUCATION

Bachelor of Technology in Mechatronics Engineering Sep 2020 - Feb 2025
Parahyangan Catholic University, Indonesia. GPA : 3.85/4.00
Recipient of Parahyangan's Academic Scholarship (Krisyadana)

PUBLICITY

T. A. Tamba, I. R. Santjoko, Y. Y. Nazaruddin and V. Nadhira, "A Multi-UAV Coordination Scheme for Tracking Control of Multiple Moving Target Objects," 2024 IEEE International Conference on Smart Mechatronics (ICSMech), Yogyakarta, Indonesia, 2024, pp. 7-11, doi: 10.1109/ICSMech62936.2024.10812277.

I. R. Santjoko, T. A. Tamba and A. Sadiyoko, "Modeling and Cascade PID Controller Design of a Spinbath Circulation Process," 2024 FORTEI-International Conference on Electrical Engineering (FORTEI-ICEE), Badung, Indonesia, 2024, pp. 183-188, doi: 10.1109/FORTEI-ICEE64706.2024.10824351.

WORK EXPERIENCE

Research Assistant Sep 2024 - Present
Parahyangan Catholic University, Indonesia.
Conducting research on control systems and robotics, including the development and analysis of a Stewart Platform, a parallel manipulator with six degrees of freedom (6-DOF). Working on Cooperative SLAP, a multi-tracker system designed to track and pursue multiple targets using range sensors. Additionally, simulated Spinbath Circulation Automation, utilizing a cascade PID control system based on system identification modeling to optimize the spinbath circulation process.

Teaching Assistant Sep 2024 - Present
Parahyangan Catholic University, Indonesia.
Teaching Engineering Mathematics and taught Automatic Control Systems.

Laboratory Assistant Sep 2022 - July 2023, Sep 2024 - Jan 2025
Parahyangan Catholic University, Indonesia.
Develop modules and supervise for the Mechatronics Practicum, which covers Electronic Systems, Microcontroller, and Automatic Control Systems.

Automation Engineer Intern Feb 2024 - Jun 2024
Asia Pacific Rayon, Indonesia.
Learned how to design a decentralized control system (DCS), perform maintenance, analyze and resolve fluctuation issues in the spinbath liquid flow, and conducting research on Spinbath Circulation Automation. Made a simulation of cascade PID control system to automate spinbath circulation process based on identification system model.

ORGANIZATION

MAHITALA (Nature Lover)
Chief Organizer of the Diving Expedition, Bokan Kepulauan. May 2023 - Sept 2023
Disaster Response Volunteer, Cianjur. Nov 2022

HMPSTEM (Student Association)
Secretary and Treasurer. Jan 2023 - Des 2023

PROJECTS

Stewart Platform, a parallel manipulator with six degrees of freedom (6-DOF). 2025

Cooperative SLAP, a multi-tracker system to track and pursuit multi-target using range sensor. 2024 - 2025

Spinbath Circulation Automation, a simulation of cascade PID control system to automate spinbath circulation process based on identification system model. 2024

Mecanum Robot, a type of mobile robot that use a combination of directional forces to achieve omnidirectional movement. 2023

FPV Drone, a remotely piloted aircraft system that provides a real-time video feed from an onboard camera to the pilot. 2022

Sumo Robot, a remotely controlled combat robot designed to compete in sumo-style robot competitions. 2021

Electrical Wheelchair, a device designed to assist individuals with limited mobility. 2020