Pandu Raditya Rohman

raditya.rohman2004@gmail.com | linkedin.com/in/pandu-raditya-rohman/ | github.com/Pndu30 | +61 459889634

Professional Summary

Mechatronics and Robotics Engineering student at Monash University with experience in ROS2-based robotics software development and applied machine learning. Proven work in real-time navigation systems (Nav2 tuning, human tracking, system integration) on physical robots, alongside development of AI/ML pipelines for perception and medical imaging.

Education

Monash University — Melbourne, VIC
Bachelor of Engineering (Honours) Robotics and Mechatronics Engineering specialisation — *Jul. 2023 – Jul. 2027*

Experience

Robotics Software Engineer Intern — Nov 2025 – Feb 2026
NICE Centre for Agricultural Robotics and Technology (NICE CART) — *Wuxi, Jiangsu, China*

- Designed and developed a ROS2–based person-following navigation system, integrating perception, tracking, and motion planning for real-time operation.
- Integrated human tracking outputs into the navigation stack, enabling motion prediction, re-acquisition after occlusions, and smooth trajectory following.
- Implemented, integrated, and tuned global and local planners such as Smac2D and Timed Elastic Band (TEB) within ROS2 Nav2 to safely follow a moving human target in dynamic environments.
- Contributed to the ROS1 MoveBase to ROS2 Nav2 migration and assisted with on-robot field testing in real-world environments.

Project Engineer — May 2025 – Present
Monash Automation (MA) — *Melbourne, Australia*

- Assisted in simulating robotic systems using PyBullet for testing and validation
- Developed robot control workflows using ROS 2 and GPT APIs to command the Unitree Go1 quadruped robot
- Currently assisting in the development of the lab's Digital Twin with the use of LiDAR and depth camera sensors and a high level ROS2 control architecture of a bipedal robot

AI Engineer — Sep 2024 – Feb 2026
Monash Analysis of Images in Medicine (Monash AIM) — *Melbourne, Australia*

- Researched, implemented, and benchmarked medical image segmentation models (UNet, MSEG-HarDNet) for brain stroke segmentation.
- Researched and prepared datasets and dataloaders for Tuberculosis detection and segmentation task

Projects

Robodog Natural-Language Control | *ROS 2, Unitree Go1 SDK, GPT API, C++* — May 2025 – Nov 2025

- Built a ROS2 interface to translate natural language inputs into motion commands for the Unitree Go1 quadruped robot.

Face Expression Detector with ResEmoteNet | *Python, Pytorch, OpenCV* — Jan 2025 - Feb 2025

- Developed a program that detects facial features using Haar Cascade and identifies facial expressions with ResEmoteNet for emotion recognition.

Brain Stroke Segmentation – MSEG-HarDNet | *Python, PyTorch* — Nov 2024 – Feb 2025

- Developed a brain stroke segmentation model using MSEG-HarDNet, a derivative of the HarDNet model (based on DenseNet), for enhanced stroke segmentation accuracy.

Certifications

Certified SOLIDWORKS Associate (CSWA) | Dassault Systèmes — May 2025
Machine Learning Specialization | Stanford University & DeepLearning.AI — Dec 2023
Google Advanced Data Analytics Professional Certificate — Dec 2023

Technical Skills

Robotics: ROS2, Nav2, tf2, RViz, Gazebo, PyBullet
AI/ML: PyTorch, OpenCV, LiDAR, RGB-D, OpenCV, Scikit-Learn
Languages: C/C++, Python, MATLAB, Verilog
Tools: Git, GitHub, Linux, SOLIDWORKS, Prusa Slicer, LTSpice, VSCode, WSL2, Foxglove