CURRICULUM VITAE (CV)

Muhammad Atabik Wifaqul Azmi

Email : atabikwifaqul89@gmail.com

Linkedln: https://www.linkedin.com/in/muhammad-atabik-wifaqul-azmi

Github : https://github.com/Abeee89

No. HP : 087735607690

PROFESSIONAL SUMMARY

Robotic Engineer with ~1 year of hands-on experience developing autonomous UAV systems, real-time computer vision pipelines, and robotics simulations. Skilled in PX4/ArduPilot flight controller, MAVLink communication, and ROS 1 integration for multi-sensor navigation. Experienced in building 3D simulation workflows using Gazebo and SITL, deploying onboard inference on NVIDIA Jetson (YOLOv4), and implementing RTK-GPS waypoint navigation for autonomous VTOL missions. Additionally developed workplace safety monitoring systems using YOLOv8n for object/person detection and Flask as a backend for web-based real-time visualization.

TECHNICAL SKILLS

Language: Python

Backend: Flask

Flight Control: PX4, ArduPilot, MAVLink, Mission Planner

Simulation: ROS 1 (Noetic), Gazebo 3D, SITL, MAVProxy

Machine Learning: YOLO, Pytorch, Tensorflow

Messaging: ROS Topics/Services, MAVLink Telemetry, UDP/RTSP Video Streaming

Embedded System: NVDIA Jetson Orin Nano, Pixhawk Flight Controller, Arduino

Software: AutoCAD, Proteus, Arduino IDE, Etap, CX Programmer, Zelio, VS Code, Git, Github

EXPERIENCE

UKM Robotics VTOL (Vertical Take-Off Landing) UNY

Programmer

November 2024 – Present

- Awarded **Best Team** at the Indonesian Flying Robot Contest (KRTI) 2025, VTOL Division.
- Developed a YOLO v4 (Darknet) based machine learning model for object detection.
- Developed an **autonomous drone system** capable of vertical take-off, stable flight control, and precision landing.

- Developed **RTK GPS based autonomous navigation**, enabling the drone to follow mission coordinates with high positioning accuracy.

PROJECT

K3 Monitoring System

- Trained and optimized **YOLOv8n** model for real-time object detection in workplace safety monitoring scenarios.
- Conducted comparative experiments between **Adam** and **SGD** optimizers to evaluate model performance, convergence speed, and detection accuracy.
- Implemented an image upload and prediction pipeline using **YOLOv8s** for server-side inference.
- Developed a **Flask-based backend** for data processing, API endpoints, and integration with a web-based dashboard for real-time monitoring and alert visualization.

PRODUCT SENTIMENT ANALYSIS

- **Developed a product sentiment analysis system** using machine learning to classify customer reviews into positive, neutral, and negative sentiments, supporting product evaluation and sales analysis.
- **Implemented an end-to-end full-stack application**, with a Python Flask REST API backend and a React.js frontend for data input, prediction, and sentiment visualization.
- **Built an ML pipeline with retraining capability**, including text preprocessing (TF-IDF), Naive Bayes classification, database integration (SQLite), and dynamic model updates using new datasets.

OBJECT DETECTION WITH PUT AND DROPIPING ITEM

- Developed computer vision applications using **Python and C++**, focusing on image processing and visual data analysis.
- Applied **computer vision algorithms** and optimized performance using **GPU acceleration (CUDA)** for efficient computation.
- Managed and structured the project using **GitHub**, demonstrating good software engineering and version control practices.

EDUCATION

Universitas Negeri Yogyakarta, Indonesia

Bachelor of Electrical Engineering Education

2023 – Current

LANGUAGES

Bahasa Indonesia (Native)

English (Conversation)