PETRUS CAELESTINUS PRATAMA PRIHANTORO

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SUMMARY

Graduated with a degree in Electronics and Instrumentation, specializing in computer vision applications, and possess a strong passion for application development. I am eager to learn, implement, and develop technology-based solutions to address global challenges. I thrive on exploring innovative ideas and am constantly seeking new challenges to create a meaningful impact on society through technology.

EDUCATION

UNIVERSITAS GADJAH MADA – Sleman, Indonesia *Aug 2019 – Nov 2023*
Fakultas Matematika dan Ilmu Pengetahuan Alam, Departemen Ilmu Komputer dan Elektronika
Sarjana Sains, Elektronika dan Instrumentasi
GPA: 3.67/4.0
Undergraduate Thesis – Automatic License Plate Blurring Optimization by Utilizing Yolov5 and Object Tracking

EXPERIENCE

MINISTRY OF ENERGY AND MINERAL RESOURCES x UGM – Sleman, Indonesia *May 2024 – Dec 2024*
Frontend Web Developer
- Developed a web application serving as a **bridge** between **mining business entities** and the **Ministry of Energy and Mineral Resources of Indonesia** to manage the complex flow of mining processes.
- Contributed to the **design** and **data structure** of various **components**, including **multi-select dropdowns**, **dynamic file uploads**, **comment features**, **real-time countdowns**, **dynamic form viewers**, and **route-based navigation**.
- Standardized the **front-end workflow** by collaborating with back-end developers to establish **API contracts**, considering **API response templates** for specific use cases or components, and defining methods for handling **data fetching states**.

FULL DRONE SOLUTION – Sleman, Indonesia *Feb 2024 – May 2024*
Mentor for Drone API Development, Mavlink, and C++ in Kampus Merdeka Programme
- Instructing students in becoming **Drone Application Software Developers**.
- Exploring the development of **Ground Control Stations** for both **desktop and mobile platforms**.
- Designing teaching materials focused on **C++ programming, API development connected to the Pixhawk Flight Controller**, and **Bridging Communication between Drone and Application**.

PT PANDU AMAN SENTOSA – Sleman, Indonesia *Dec 2021 – Jun 2022*
Computer Vision Application Developer
Developed computer vision android application to detect driver drowsiness called **PAS ANDALAN SOLUSI**

GADJAH MADA ROBOTICS TEAM ALFAROBI – Sleman, Indonesia *Aug 2019 – Dec 2021*
Computer Vision Programmer
- Developed pole detection algorithm for humanoid robot.
- Inspected the object projection algorithm to get reasonable value that represent the range between robot and detected object with $\pm 30 cm$ **error**.
- Using **Robot Operating System (ROS) with C++** for all program development.

PROJECT

PROGRAMMABLE CDI *Apr 2023 – Aug 2023*
Mobile App and Embedded System Developer
- Developed a mobile application for **configuring the CDI timing** of motorcycles using the **ESP32** with Bluetooth Low Energy (BLE) protocol.
- Enabled **real-time monitoring** of speed, combustion chamber temperature, CDI battery status, and motor RPM through the mobile app.
- Designed and implemented an **efficient data flow** between the ESP32 and the mobile application.
- Introduced features such as **rumble idle timing** and **backfire adjustments** for enhanced performance.
- Technologies utilized: **Dart, Flutter, C, ESP32, BLE.**

AUTOMATIC OBJECT ANONYMIZATION *Apr 2023 – Aug 2023*

Computer Vision Application Developer

GitHub Link: https://github.com/petrusceles/YOLOv5-Mobile-Automatic-Object-Blurring-App.git

- Developed a video recording Android application that implements object detection and tracking to automatically blur detected license plates with up to **90% accuracy and a frame rate of 26 fps**.
- Utilized the **YOLOv5n6** model for object detection and employed **SORT (Simple Online and Realtime Tracking)** for predicting and estimating the next state of bounding boxes.
- Implemented asynchronous processing to **enhance the frame rate by up to 500%.**
- Technologies used: **Kotlin, Android Studio, Python, TensorFlow, Pytorch.**

NAQOS: BOARDING HOUSE RENTAL *Jun 2023 – Oct 2023*

Full stack Web Developer

GitHub Link: https://github.com/petrusceles/Naqos-FE.git

- Implement session with **cookies authentication**, **login** and **signin API**, **boarding house CRUD**, **seeker** and **owner role authorization**, and **booking API.**
- Using **Service Repository Pattern** as the design pattern.
- Technologies used: **ReactJs, ExpressJs, MongoDB, Vite, ReactQuery, PassportJs, TailwindCSS**.
- Deployed the API in **Cyclic** and the client-side app in **Vercel** and ensure automatic deployment.

PAS ANDALAN SOLUSI : DRIVER MONITORING SYSTEM *Dec 2021 – Jun 2022*

Computer Vision Application Developer

Documentation: https://mipa.ugm.ac.id/2022/06/20/pas-andalan-solusi/

- Develop drowsiness detection based on face behaviour such as eyes blink, yawning, and eyes opening area with up to **78% accuracy**.
- Integrating another driver monitoring system such as positioning system, driver alcohol detection, and vehicle velocity data acquisition into the android application.
- Technologies used : **Java, MLKit, Android Studio, CameraX API**.

ACHIEVEMENTS

INDONESIA ROBOT CONTEST REGIONAL 2021

2nd Place on Humanoid Soccer Robot Contest

INDONESIA ROBOT CONTEST NATIONAL 2021

Best Strategy on Humanoid Soccer Robot Contest

ADDITIONAL

Technical : HTML, CSS, JavaScript, ReactJS, VueJS, ExpressJS, Tailwind CSS, PostgreSQL, MongoDB, Machine Learning, Computer Vision, Python, Pytorch, Kotlin, Java, Android Studio, C++, C, ROS, Control System, Dart, Flutter

Personal Skill : Teamwork, analytical, concept oriented, fast learner, diligent, high curiosity, adaptive

Github : https://github.com/petrusceles/

Linkedin : https://www.linkedin.com/in/celes-pratama/