

Dionesius Agung

SOFTWARE ENGINEER · ROBOTICS ENGINEER

Jl. Tubagus Ismail II No. 10, Bandung, 40134, Indonesia

☎ (+62) 813-3645-6789 | ✉ dionesiusap@gmail.com | 📷 dionesiusap | 🌐 dionesius-agung

Summary

A student currently pursuing a bachelor's degree in computer science from Institut Teknologi Bandung with high interests in robotics and AI, mainly focused in state estimation, active perception, and computer vision. A proactive person who is eager to learn new things and has good communication skills. An aspiring engineer currently looking for opportunity as robotics software engineer.

Education

Institut Teknologi Bandung

Bandung, Indonesia

BACHELOR OF ENGINEERING, COMPUTER SCIENCE (GPA 3.08/4.00)

Aug 2016 - Jul 2020 (expected)

- Currently doing final project about autonomous navigation and control for simultaneous localization and mapping (SLAM) on mobile robots.
- Is currently active in a robotics team focusing on mobile robots, doing research and software implementations.

Experiences

Shopee Internasional Indonesia

Jakarta, Indonesia

SOFTWARE ENGINEER INTERN

May 2019 - Aug 2019

- Implemented back end handler component that deals with high number of requests per second.
- Created feature release manager to enable independent and individual releases of features for different countries.

Dagozilla ITB Robotics

Bandung, Indonesia

LEAD SOFTWARE ENGINEER

Sept 2018 - Sept 2019

- Generally directed the research and development on computer vision, robotic system controls, robot AI, and software UI/UX.
- Designed and implemented AI for goalkeeper robot behavior and decision making.
- Researched and implemented algorithm for robot state (position) estimation using Monte Carlo Localization.

SOFTWARE ENGINEER

Sept 2017 - Present

- Designed architecture for computer vision system software for football-playing robots that compete in Indonesian MSL.
- Made object (ball, obstacle, and field) detection for MSL robots using OpenCV library.
- Did research on odometry and IMU sensor fusion using Extended Kalman Filter.

Skills

Programming Python, C++, Golang, Javascript, Node.js

Systems and Tools ROS (Robot Operating System), Unix Operating Systems, OpenCV Library

Human Languages Indonesian (native), English (fluent/native proficiency)

Projects

Vision-Based Vehicle License Plate Reader

Image Processing

USING PURE IMAGE PROCESSING TECHNIQUES WITHOUT ANY LEARNING ALGORITHMS TO READ LICENSE PLATES

2019

- Built a custom image processing library for the recognition.
- Used pure image processing methods to recognize characters on license plates.
- Created a web-based graphical user interface for the application.
- Used C++, Javascript, and WebAssembly for this project.

Smart Home IoT Project

Distributed System and Platforms

AN IOT PROTOTYPE FOR SMART HOME USING ARDUINO, RASPBERRY PI, AND ANDROID

2019

- Created simple Android app to control lights and other home appliances via WiFi.
- Implemented ROS nodes to communicate with hardware controllers.

Mobile Telepresence Robot

Robotics

A MOBILE TELEPRESENCE ROBOT THAT CAN BE CONTROLLED REMOTELY VIA THE INTERNET USED FOR TELECONFERENCE

2018

- Developed the robot software including the middleware and control with Robot Operating System (ROS).
- Programmed the microcontroller (STM32 Nucleo F446RE).
- Created video chat software for the robot-mounted and user-facing applications using WebRTC.
- Used Python, C++, Node.js, socket.io, and WebRTC for this project.