Software engineer

Álvaro Fernández García

+34 684 605 698

alvarofergar95@gmail.com

AlvaroFerGar

alvarofdezg

Software engineer specialized in computer vision. Experience in robotic simulations and autonomous navigation. More than five years developing real-time part inspection systems. Proficient in C++, Python, OpenCV, Qt, and Linux, with interests in vision, robotics, ML, and 3D environments.

Education

Degree in Industrial Electronics and Automation Engineering — 2013-2017

Escuela Politécnica de Ingeniería de Gijón

- Robotics Specialization
- Final Degree Project: Clasificación de expresiones faciales a través de técnicas de visión por computador

Master's in Automation and Industrial Informatics Engineering — 2017-2019

Escuela Politécnica de Ingeniería de Gijón

- Advanced Supervision Specialization
- Final Master's Project: Navegación y control de un robot omnidireccional en ROS

Experience

Project Manager and Senior Software Engineer — 2019 - Present

CIN Advanced Systems Group S.L

Responsibilities

- Project management and lead software development of real-time inspection projects for the automotive industry.
- Involvement in all software areas of the project, including data acquisition, image processing, communication, and complementary configuration applications for the final user.
- Implementation of object detection solutions based on machine learning.
- Coordination with clients and technical teams, including mechanical, electrical, automation, and ML department.
- Development of shared software solutions and internal libraries.

Tecnologías C++, Python, OpenCV, Linux, Qt, Multithreading, ML, Docker

Junior Software Engineer
2018 - 2019

CIN Advanced Systems Group S.L

Responsibilities

- Development of computer vision algorithms and libraries for laser triangulation sensors, both proprietary and commercial.
- Implementation of software for image data acquisition and processing.

Tecnologías C++, Matlab, OpenCV, Linux, Qt, Multithreading

Researcher
2018 - 2019

University of Oviedo. IROBOT Group

Responsibilities

- Simulation work for designing and implementing an omnidirectional mobile robot for industrial environments.
- Development of autonomous navigation and localization systems using ROS.
- Configuration and use of LIDAR sensors for position estimation, map generation, and safe trajectory planning.
- Programming in C++ and Python for the development of nodes and project-specific algorithms.
- Development of an algorithm to generate trajectories that correct defects in steel sheets.
- Publications at the XL Jornadas de Automática:
  - *Algoritmo de generación de trayectorias en el interior de chapas para la subsanación de defectos*
  - *Localización de robots móviles en entornos*

Tecnologías C++, Python, ROS, Gazebo, FlexBE.

Intern Engineer
2017

Desarrollo Soluciones Integrales Plus S.L

Responsibilities

- Basic Linux system administration.
- Artificial vision tests with OpenCV and MATLAB.

Tecnologías Linux, OpenCV, MATLAB.

Skills

Programming Languages
C++ • Python • Javascript • MATLAB

Libraries
OpenCV • Qt • ROS • Three.js • Pytorch

Tools
Git • QtCreator • Docker • CloudCompare

Fields
Computer Vision •Robotics•Machine Learning• 3D

Languages

- Spanish (native)
- English (advanced)