FIDEL GONZÁLEZ LEIVA

Robotics and Automation Engineer and Software Developer

SKILLS

- C++ — 3+ yrs
- C — 1+ yrs
- Python — 3+ yrs
- Bash — 3+ yrs
- LaTeX — 3+ yrs
- Linux — 5+ yrs
- GIT — 4+ yrs
- Docker — 1+ yrs
- GStreamer — 1+ yrs
- MATLAB — 2+ yrs

CONTACT

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lotape6

Fidel González Leiva

PROFILE

Computer Vision and robot automation software developer with strong theoretical skills and field experience. Passionate about Open Source projects, aerial/grounded robots and machine learning applications.

Robotic and Automation engineer specialized in perception and system integration, experienced with large European projects.
Comfortable at software developing, robot system manager and field validation.

I am a committed and sociable person used to work with different people (teammates, customers, interns), highly motivated to work in a team and eager to learn.

Other interests: 3D Printing, drone racing, embedded systems, data science, cloud, cybersecurity and real time streaming.

WORK EXPERIENCE

FADA-CATEC — June 2019 - Now
Andalusian Foundation for Aerospace Development
Advanced Center for Aerospace Technologies
Robotics Engineer | Software Developer

Participation in:

MBZIRC 2020

Jun 19 - Feb 20

Mohamed Bin Zayed International Robotics Challenge — as: Software Developer

Achievements:
Development of fully autonomous UAVs capable of intercepting different targets. Two main tasks: piercing balloons randomly placed and stealing a ball from a moving drone with unknown trajectories.

Contributed to:
Autonomous drone with ability to track and capture an aerial target

GAVIOTA

Feb 20 - Apr 21

Development of innovative global ground-to-air solutions for safe drone operations at very low altitude — as: Software Developer

Achievements:
Development of a ground-based device capable of detecting airplanes and small aircrafts within 2 Km using Artificial Intelligence, high resolution cameras and highly directional microphones.

Contributed to:
Audio-Based Aircraft Detection System for Safe RPAS BVLOS Operations

STUDIES

2018 - 2019

Master's Degree in Electronic, Robotics and Automation Engineering.

University of Seville

20014 - 2018

Electronic Robotic and Mechatronic Engineering degree
University of Malaga / University of Seville

COURSES

Modelling of Mechatronic Systems-Introductory Course

University of Malaga

Docker Mastery: with Kubernetes +Swarm from a Docker Captain

Udemy

Docker basic and advanced features + Kubernetes.

DELOREAN

Drones and Egnss for LOw aiRspacE urbAN mobility

Apr 21 - Jun 21

as: Software Developer

Achievements:
Study on autonomous operations with unmanned aerial vehicles in urban environment with EGNSS and LIDAR.

METRICS

Inspection & Maintenance Aerial competition

Dec 20 - Jan 22

as: Organizer and evaluator

Achievements:
Organized the 1st RAMI Cascade Campaign for aerial robots to solve autonomous navigation without GNSS and automatic defect detection with AI tasks.

ASSISTANCE

Adapted Situation AwareneSS tools and taIlored training scenarios for increaSing capabiliTies and enhANcing the proteCtion of First RespondErs

Jun 21 - Sep 21

as: Software Developer

Achievements:
Developing an autonomous drone capable of capturing an intruder drone thanks to Artificial Intelligence and classic Computer Vision algorithms

Published:
Vision-based UAV Detection for Air-to-Air Neutralization

Piloto5GAndalucia

swarm of drones with 5G communications for inspection and security tasks

Aug 21 - Oct 21

as: Software Developer

Achievements:
Swarm of drones some target detection capabilities, performing real time streaming over a 5G network.

ASSISTANCE

Adapted Situation AwareneSS tools and taIlored training scenarios for increaSing capabiliTies and enhANcing the proteCtion of First RespondErs

Nov 21 - Jul 22

as: Project Manager

Achievements:
Organisation and resource management and software developing with a small team in order to provide multiple functionalities with drones for the ASSISTANCE project.

FAMILIAR TECHNOLOGIES

Throughout the different projects I have become acquainted with different technologies as:

Preparing and managing different onboard computers, mainly with Linux distributions or Linux 4 Tegra. Computers as Jetsons (Jetson TX2 with different carriers, Jetson Xavier NX), Raspberry Pi and Intel NUCs.

Very experienced in Robotic Operating System (ROS), multiple autonomous drones operations were made taking advantage of the tools and the architecture provided by this OS. I have discovered in multiple occasions the benefits and the limitations of using ROS,

and I am willing to work with ROS2.

I am familiar with some libraries like OpenCV (C++ and Python), PCL or Darknet, and very used to learn and work with new libraries.

Regarding other useful software tools used it is worth mentioning the use Docker for preparing environments and libraries and deploy easily the developments in any platform (using GPU, GUIs and communicating peripherals) and Gstreamer for handling video streams and performing real-time streaming with different protocols (RTSP, RTP, SRT, etc.).

Used to work always with GIT (alone and collaborating), but all the developments are on a private GIT server and thus my github profile does not correspond to my experience.