Alberto Lucchini

Automation Engineer - Automotive Specialist

I am a multifaceted individual with a strong drive to expand my knowledge across diverse fields, ranging from engineering to management, from design to manufacturing.
I strive to contribute at creating a fair and dynamic working team where everyone is empowered to contribute their best towards achieving our common goals.
I believe that fostering collaboration and synergy is essential for success.
To take care of myself. I break the fast-paced weekly routine through camping adventures and mountain hiking that allow me to reconnect with nature and friends.

EDUCATION

Bachelor & Master in Automation and Contro Engineering
Politecnico di Milano [2015 - 2020]

EXPERIENCE

Electrotechnical Lab Teaching Assistant
Politecnico di Milano [2018 - 2021]

MATLAB student Ambassador
The Mathworks s.r.l. [2018 - 2020]

Research Assistant at mOve
Politecnico di Milano [2021 - Today]

APPLICATION

AUTODESK INVENTOR · Simulink · MATLAB · Python · ROS · dSPACE · Embedded · VECTOR

RESEARCH TOPICS

Brake By Wire · Eletric Motor · Computer Vision · Lidar · SW-HW integration · Microcontroller · Steer By Wire · Suspension Control

LANGUAGES

🇬🇧 English B2   🇮🇹 Italian

PROJECT

1000 Miglia Autonomous Drive

Senior System Engineer <ITA> [2023 - Today]
In this ambitious project, our team successfully collaborated to implement an autonomous driving system within a standard Maserati car. This innovative system enabled the vehicle to autonomously compete in the esteemed Mille Miglia, a revered 60km traditional Italian racing event.
- Lead a team of 12 people
- Responsible of supply chain management and stakeholder interaction
- Design HW architectures that fullfill the requirements of the project.
- Formalize each architecture in subsystem specifications.
- Implement them into the real vehicle by manufacturing parts and hardness.
- Deploy the algorithms proposed by the team and validate them on the car.
- Certified pilot for autonomous driving testing

#CANBUS #CAD #FMEA #PDU

Indy Autonomous Challenge team PolimOve

System Engineer <USA> [2022 - 2023]
University racing competition where each team is tasked with transforming an Indy Light car into an autonomous vehicle capable of driving competitive tracks, as Indianapolis and Monza. By now, we won four out of the five editions held.
- Implement a redundant IMU sensor
- Integrate a redundand GPS + RTK sensor

#Networking #ROS2 #Actuators calibration #RTK-GPS

BBW - SBW - Suspension - MCU - ABS

Embedded / Test Engineer <ITA> [2021 - 2022]
This project aims at adapt microcontroller SW to work with power and sensing board to implement control algorithm for single car submodule.
- Research best HW for specific applications (performance/price/quality/reliability)
- Implement an optimized BBW-SBW code to increase the performances
- Modify suspension ECU firmware for optimal code execution
- Tune on field ABS parameters for trailer optimal breaking performance

#ST Microcontroller #NXP Microcontroller #RTOS # Parameters Tuning

Driver monitoring

Embedded Engineer <ITA> [2021 - 2022]
The projects aimed to collect pilot's data to model driving attitude and ability
- Electric scooter driver with a fully integrated GPS + IMU + Microcontroller in a water sealed packaging
- Car stress monitoring with a complete biometric wireless acquisition system with real-time storage and computation capability

#Integration #Robustness #Ease of use #Driving Style Assessment

Automation level upgrade for a three-wheeled vehicle

Jr System Engineer <ITA> [2020]
The project's objective is to enhance a motorcycle both HW and SW, enabling it to autonomously execute parking maneuvers. The challenge was to reverse engineer the vehicle ECU behavior to gurantee the best integration possible.
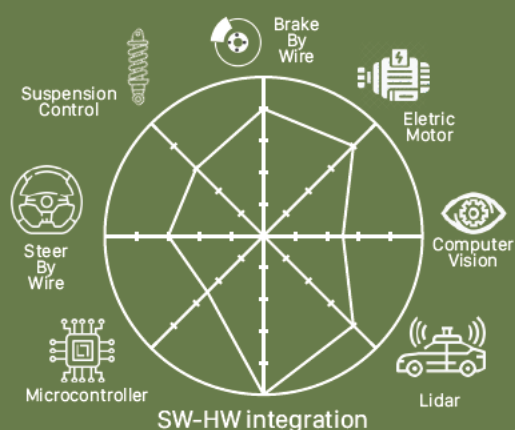- Design architecture needed for enforcing L4 autonomous driving
- Manufacture and install components for POC development.

#TCP/IP #UDP #HW design #Vehicle specification analysis

CONTACTS

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