Giacomo **Lisita**

Software Engineer

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EDUCATION

Karlsruher Institute für Technologie(KIT)

Karlsruhe, Germany

Erasmus+ Program, ongoing — *Sep. 2023 - Sep. 2024*

- Full year(2 semesters) Program, specializing in Data Science, Machine Learning, and Embedded systems.
- Practical experience in **digital hardware design and FPGA deployment** and in deploying **high-performance Neural Networks on FPGA** platforms for real-time AI applications.

Università degli Studi di Napoli 'Federico II'

Naples, Italy

M.Sc. in Computer Engineering specializing in Data Engineering and Artificial Intelligence, ongoing — *Nov. 2022 - To define*

- Specializing in Data Engineering, Artificial Intelligence, and Image Processing.
- Current GPA: **3.850**.
- B.Sc. in Computer Engineering in the same university

EXPERIENCE

Forschungszentrum Informatik(FZI)

Karlsruhe, Germany

Master's thesis researcher - Fault Detection in Autonomous Vehicle Perception Systems through Deep Learning — *Feb. 2024 - August 2024*

- Analyzed key methodologies in **fault detection** across **30+** industry publications, contributing critical insights to a research proposal aimed at enhancing the safety features of autonomous vehicles, fostering innovation in the automotive sector.
- Compiled a robust dataset by integrating **100k+** records from various open-source datasets with proprietary sensor data; this initiative streamlined the image processing pipeline and reduced data preparation time by **40%**.
- Expanded and diversified the dataset by training a **Pix2Pix** generative model for image-to-image translation tasks.
- Utilized **supervised deep learning** techniques to develop and refine models for image fault detection. Methodically trained, tested, and evaluated multiple models achieving robust performance metrics on test set such as **98.29%** precision, **97.47%** recall, and **97.56%** F1 score.

RELEVANT SIDE PROJECTS

Multi-Class Semantic Segmentation on Urban Driving Scenes

Most Relevant Technologies: PyTorch, NumPy

- Implemented an extensive training pipeline for a multi-class segmentation project using CityScapes dataset, aiming to classify objects in urban street scenes.
- Utilized comprehensive evaluation metrics, reaching a value of **0.56** mIoU on the test set.
- **Project overview**

Sensor Data Analysis and Trajectory Prediction Using Machine Learning

Most Relevant Technologies: Pandas, Sklearn, Numpy

- Developed a comprehensive analysis of sensor data to classify object trajectories and estimate sensor coverage in urban environments using Python and machine learning algorithms.
- **Project overview**

Personal Portfolio Website

Most Relevant Technologies: React, Javascript, HTML, CSS, GitHub

- Designed and developed a personal portfolio website from scratch, utilizing key technologies to create a user-friendly platform showcasing my projects and skills.
- **Project overview**

TRAINING PROGRAM

Apple Developer Academy

Naples, Italy

Student program — *Sep. 2022 - June. 2023*

Acquired comprehensive experience in the entire **iOS app development lifecycle** during a 9-month training program, successfully designed and launched an app on the App store together with my team.

SKILLS

Programming languages	Python, C, C++, Java, Javascript, SQL
Technologies	Docker, Git, GitHub, PyTorch, OpenCV, NumPy, VHDL, Pandas, Brevitas, ONNX, FINN, ModelSim, React, CSS, HTML
SO	Windows, Unix
Other	Data structures, Algorithms, Data Science, Image Processing
Langagues	English(advanced), Italian(native), German(Developing proficiency)