

# Lorenzo Palaia

SOFTWARE ENGINEER · COMPUTER AND AUTOMATIC ENGINEERING GRAD

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## Education

### Sapienza University of Rome

BSC IN COMPUTER AND AUTOMATIC ENGINEERING

Rome, IT

Mar 2024

- Excelled in **Operative Systems, Functional Programming, Programming Techniques**: (4.0 GPA with honors)
- Mastered **Data Structures & Algorithms, Software Design, Parallel Computing, Electronics, Web Development** (4.0 GPA)

## Work Experience

### Freelance

SOFTWARE DEVELOPER

2019 - Present

- Engineered websites and applications for over 5 private and corporate clients, delivering solutions including **landing pages, bots** and **trackers**
- Collaborated with clients to **analyze** requirements, **propose** innovative ideas, **document** solutions and **maintain** software post-release

## Side Projects

### Neural Style Transfer & Genre Classification

GitHub Repo

BSC GRADUATION THESIS

- Applied Neural Style Transfer and phase reconstruction techniques to spectrograms of audio sources, reducing **output noise** by **90%**
- Achieved over **90% precision** in genre classification using 4 different machine learning models, optimizing via data augmentation

### Blocktracr

GitHub Repo

FULLSTACK PROJECT

- Built a fullstack platform to monitor crypto wallets across **100+ exchanges**, integrating CCXT API to retrieve user data and coin prices
- Architected a **secure data pipeline**, storing user data in Supabase and optimizing security with **asymmetric encryption**

### lorenzopalaia.com

GitHub Repo

FULLSTACK PROJECT

- Integrated **GitHub API** with authenticated requests, implementing **server-side caching** to reduce API requests by **40%** and prevent rate limits
- Delivered **UI** and **UX** by adhering to core frontend principles, following a minimalistic approach and reducing page load time to **0.3 seconds**

### Arduino Oscilloscope

GitHub Repo

OS PROJECT

- Produced the Arduino schematic and engineered continuous and buffered sampling modes for **8 channels** with adjustable frequency control
- Optimized serial communication, prioritizing **interrupts** over polling to improve throughput by **20%** and handling memory leaks with Valgrind

## Extra Activities

### Open Source Contributions

GITHUB

Jan 2024 - Present

- Contributed to **10+** projects, focusing on **UI/UX enhancements, feature development**, performance optimization and codebase refactoring

### Randstad <Code.Your.Future> AI Hackathon

Rome, IT

HACKATHON

Mar 2023

- Guided the development of a **job description classification** neural network in a team of 5 using Tensorflow within 4 hours
- Secured **2nd** place, achieving an **F1 score of 75%**, experimenting with Bag of Words and Word2Vec approaches

### Sapienza Flight Team - AUVSI SUAS competition

Rome, IT

COMPUTER VISION SOFTWARE ENGINEER

Sep 2021 - Oct 2022

- Collaborated in a subteam of 5 within a 60-member team, **migrating** the entire Flight Team **workflow to Slack**
- Earned a **15th** position out of 71 entries for the Technical Design Paper in the AUVSI SUAS competition
- Developed **object detection** and **terrain mapping** systems for a UAV, training YOLOv5/EfficientNet models with custom datasets
- Designed and implemented **communication protocols** between UAV and Ground Station from scratch, developing a Flask-based API

## Skills

### Programming Languages

Python, TensorFlow, Keras, C, Java, HTML, CSS, Typescript, React, Next.js, Tailwind, Vue, Node.js, PostgreSQL  
Italian, English