

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**

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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

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 and revamping the GUI

Skills

Programming Languages Python, TensorFlow, Keras, C, Java, HTML, CSS, Typescript, React, Next.js, Tailwind, Vue, Node.js, PostgreSQL
Italian (Native), English (CEFR Level B2), French (CEFR Level A1)