Lorenzo **Palaia**

SOFTWARE ENGINEER · COMPUTER AND AUTOMATIC ENGINEERING GRAD

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Education

Computer and Automatic Engineering   *Sapienza University of Rome*

🏛 BACHELOR OF SCIENCES   📅 *Mar 2024*

- Best Marks: **Operative Systems, Functional Programming, Programming Techniques** 4.0 GPA cum laude, **Data Structures & Algorithms, Software Design, Parallel Computing, Electronics, Web Development** 4.0 GPA

Work Experience

Software Developer   *Freelance*

</> | PYTHON | HTML   📅 *2019 - Present*

- Developed websites and applications for more than 5 private and corporate clients including **landing pages**, **bots** and **trackers**
- Studied requirements with customers, brought new ideas, **documented** and **maintained** after the release

Side Projects

Neural Style Transfer & Genre Classification   *BSc Graduation Thesis*

</> | PYTHON | TENSORFLOW   🔗 *GitHub Repo*

- Applied the concepts of Neural Style Transfer to the spectrograms of audio sources, reduced the **output noise** by more than **90%**
- Achieved a **precision over 90%** with 4 different Genre Classification models, tested several approaches such as data augmentation techniques

Blocktracr   *Fullstack Project*

</> | VUE | MONGODB   🔗 *GitHub Repo*

- Built a **MEVN stack** project to track personal crypto wallets on 100+ different exchanges connected via the CCXT API
- Obtained metrics via crypto data APIs, stored user data to MongoDB and provided tracking over time, structured the reports using Chart.js library

Arduino Oscilloscope   *OS Project*

</> | C   🔗 *GitHub Repo*

- Introduced continuous and buffered sampling modes **up to 8 channels** with adjustable frequency via client, handled memory leaks with Valgrind
- Prioritized **serial communication via interrupts** over polling which improved throughput and efficiency by 20%, produced the Arduino schematic

lorenzopalaia.it   *Fullstack Project*

</> | NEXTJS | REACT   🔗 *GitHub Repo*

- Integrated **GitHub API** with authenticated requests, implemented **server-side caching** reducing API request load by 40% avoiding rate limits
- Developed custom **hooks** to manage Tailwind CSS effects, delivered exceptional **UI** and **UX** by adhering to core frontend principles

Extra Activities

Randstad <Code.Your.Future> AI Hackathon   *Hackathon, Rome, IT*

</> | PYTHON | TENSORFLOW   📅 *Mar 2023*

- Guided the development of a **job description classification** neural network in a team of 5 using Tensorflow in a 4 hour challenge
- Secured the 2nd spot out of 8 contenders, reached an **F1 score of 75%**, explored both Bag of Words and Word2Vec solutions

Sapienza Flight Team - AUVSI SUAS competition   *Computer Vision SWE, Rome, IT*

</> | PYTHON | TENSORFLOW | C   📅 *Sep 2021 - Oct 2022*

- Implemented the **object detection** and **terrain mapping** systems of a **UAV**, trained YOLOv5/EfficientNet models with custom datasets
- Designed the **communication protocols** between UAV and Ground Station from scratch via endpoints using Flask, restructured the labeling GUI
- Worked in a subteam of 5 and collaborated frequently with 60 people in other subteams, **migrated** 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

Skills

Programming   Python, C, Java, Javascript, Scala, Assembly, TensorFlow, Vue, React, NextJS, Node.js, HTML, CSS, MongoDB, PostgreSQL

Languages   Italian - Native Speak, English - CEFR Level B2, French - CEFR Level A1