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 Languages — Python, C, Java, Javascript, Scala, Assembly, TensorFlow, Vue, Node.js, HTML, CSS, MongoDB, PostgreSQL

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