

First Last

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Education

University | City, Country 2012 – 2018
Bachelor of Science in Computer Engineering

University | City, Country 2018 – 2021
Master of Science in Computer Engineering

Skills

Programming: C/C++, Java, Kotlin, Python, JavaScript/TypeScript, PHP, SQL

Frameworks: Angular, Spring Boot, Hibernate, SQLAlchemy, MongoDB, Google Firestore, Node.js, RxJS, React Native, FastAPI, QT, Yocto

Tools: Git, Docker, UML

Platforms: Linux, Windows

Languages: Italian (native), English (fluent)

Experience

Organization | City, Country Mar – Nov 2021
Researcher Intern

- Designed an object-oriented framework allowing Internet of Things devices to create a digital identity autonomously and to access online services in a secure way according to the W3C standards Decentralized Identifiers and Verifiable Credentials.
- Developed the full stack implementation of the proposed design in Python testing each use case by defining a test suite including unit, integration and e2e test cases reaching 95% code coverage.
- Compiled and installed a custom Linux distribution using the Yocto project toolchain by writing a new meta-layer including all the necessary recipes resulting in a minimal image compatible with the i.MX6 architecture.
- Tested and optimized the framework in a real use case scenario by profiling the CPU and memory usage to optimize the code and to reduce the needed resources.
- Developed REST API using FastAPI to define an Identity-as-a-Service allowing constrained IoT devices to access the framework functionalities.
- Designed and implemented a demo single-page application in Angular allowing the user to use the framework acting as an IoT device in an interactive way thanks to a user-friendly interface.

Projects

Cooperative rich text editor Lug – Sep 2020
Team-based, C++, QT

- Implemented a CRDT algorithm using a LSEQ allocation strategy to work on shared documents by send and format characters in real time through multiple clients.
- Extended QT rich text editor classes to integrate the core algorithm by allowing users to work on the documents using a GUI and see which users are currently connected on the same document.

REST APIs virtual labs management system Oct – Dec 2020
Team-based, Java, Spring Boot, Angular, TypeScript, Angular Material

- Built REST APIs that allow management of courses, students and resources to be shared among virtual machines accessed by multiple users.
- Implemented JWT based security mechanism to manage the authentication and authorization of API endpoints.
- Created API documentation by defining a test suite using Swagger that resulted in full code coverage.

Digital record student system Sep – Dec 2020
Team-based, Javascript, PHP, SQL, Bootstrap

- Worked in a 7-developers team following the SCRUM methodology to create a digital record system for school management (students, courses, assignments, announcements).
- Implemented multiple web pages building responsive layouts and server-side features allowing users to grant access to different features based on an authentication mechanism.