

# Gabriele Volani

Master Student in Computer Science | Software Developer @ Socialit

✉ gabrielevolani02@gmail.com · [in/in/gabriele-volani](#) · [gabri17](#) · [gabrielevolani.com](#)

## Work Experience

### Socialit [↗](#) - Full-stack Developer

October 2024-Present

- Develop **full-stack web applications** using modern technologies and frameworks such as Spring and Angular.
- Gather and analyze functional requirements from **direct interaction with customers' needs**.
- Collaborate with cross-functional teams and interact directly with clients to deliver software within project deadlines.

### Socialit [↗](#) - Software Developer Intern

March 2024-May 2024

- Contributed to the development of a **CMS platform** for online training management by designing UI mockups in **Figma**, participating in database design, developing back-end authentication and authorization services with **Spring**, and implementing front-end interfaces using **AngularJS**.

## Education

Expected 2027

**Master Degree in Computer Science - Data Science**

**University of Trento**

Graduated 2024

**Bachelor Degree in Computer Science**

**University of Trento**

## Projects

### High-Performance Parallel Numerical Integration [↗](#)

- Designed and implemented two **high-performance parallel algorithms** for 2D numerical integration on HPC clusters using MPI, OpenMP and hybrid parallel programming techniques.
- Developed and benchmarked scalable distributed solutions, evaluating performance on a **7,600+ core HPC cluster**.
- Optimized parallel execution, process communication and workload balancing and performed performance analysis under varying computational workloads.

### Blockchain-Based Academic Credential Verification System [↗](#)

- Built EduVerify, a **blockchain-based academic credential verification system** on Polygon enabling tamper-proof certificate issuance and validation.
- Developed **Solidity smart contracts with multi-signature governance** using OpenZeppelin libraries.
- Implemented a **full-stack decentralized** React.js dApp integrating Ethers.js/Web3.js and IPFS (Pinata) for decentralized storage and verification.

### Fault-Tolerant Data Collection Protocol for Wireless Sensor Networks [↗](#)

- Developed a **fault-tolerant IoT routing protocol** on Contiki OS supporting upward collection and downward source routing in wireless sensor networks.
- Implemented recovery mechanisms including backup-parent switching and Trickle-like rejoining for robust IoT operation.
- Validated performance on **real environment**, achieving 99% PDR and up to 40× energy savings.

## Skills

### Languages

### Web programming

### Parallel programming and DL

### Infrastructure

### Concepts

Java, Python, C, C++, Solidity, SQL, Typescript, Shell Scripting

Spring Boot, JDBC, Hibernate, Express, NodeJS, Angular

PySpark, OpenMP, MPI, PyTorch

Docker, Kubernetes, Git, Linux, Firebase, PBS Schedulers

Microservices, Blockchain, Distributed Systems, IOT, HPC, Deep Learning