

# Filippo Costa

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|---------------------------|---|
| experience                | <p><b>Sovereign Labs</b>, Sr. Protocol Engineer <i>Jun. 2023 - present</i></p> <p>Co-designed a modular Rust <a href="#">framework</a> &amp; SDK for building ZK rollups.</p> <ul style="list-style-type: none"><li>• Introduced testing, OpenTelemetry monitoring, documentation, DevEx, security tools (MIRI, AFL), and CI best practices.</li><li>• Wrote tools to (1) automatically test example code blocks in README files, (2) run crate pre-release checks in CI, and (3) reduce project compilation times.</li><li>• Authored a scalable L2 block explorer backend with REST and GraphQL APIs, PostgreSQL and SQLx.</li></ul>  |
|                           | <p><b>Edge &amp; Node (prev. The Graph)</b>, Rust Software Engineer <i>Feb. 2022 - Jun. 2023</i></p> <p>Developed security patches, new features, and internal tools for <a href="#">Graph Node</a>.</p> <ul style="list-style-type: none"><li>• Lead work on Graphix, a data inconsistency monitoring and rootcausing tool for The Graph Network and its data.</li><li>• Authored, documented, and owned release engineering processes for several major products.</li><li>• Co-lead cloud offering deprecation in favor of network queries, which resulted in cloud costs down by ~10% and targeting ~80% by Q4 2023, and increase in query fees and network rewards.</li></ul> |
|                           | <p><b>Spacemesh</b>, Core Protocol Developer <i>Jul. 2021 - Feb. 2022</i></p> <p>Helped develop a novel WebAssembly-based smart contract execution engine in Go, C, and Rust.</p> <ul style="list-style-type: none"><li>• Identified and fixed 10s of consensus-threatening determinism bugs.</li><li>• Assisted R&amp;D with iterative prototyping and protocol improvement proposals.</li></ul>   |
|                           | <p><b>Bitwyre</b>, Part-Time Contractor, Rust Software Developer <i>Dec. 2020 - Jul. 2021</i></p> <p>Implemented Financial Information eXchange (FIX) APIs upon my open-source project <a href="#">FerrumFIX</a>.</p> <ul style="list-style-type: none"><li>• Adopted TDD to implement highly technical protocols for low-latency systems.</li><li>• Programmed asynchronous network code leveraging TLS, OpenSSL, UDP multicasting, code generation.</li></ul>   |
|                           | <p><b>Efficiam</b>, Intern, Rust Software Developer <i>Summer 2019</i></p> <p>Improved reliability of the market order matching engine and increased test coverage by over 40%. Introduced event-sourcing architecture and remodelled the Limit Order Book implementation after the QuantCup winner entry.</p>  |
| education                 | <p><b>University of Pisa</b>, Computer Science courses <i>Sept. 2019 - Feb. 2022</i></p> <p>Dropped out to join Edge &amp; Node. Average grade: 28.35/30 ~ 94%.<br/>Relevant courses: Algorithms &amp; Data Structures, Formal Logic cum laude, Programming I (C89) &amp; II (OCaml, Java) cum laude, Computer Architecture (ARMv7), Operating Systems, others.</p>   |
|                           | <p><b>LeadTheFuture.tech</b>, Apprenticeship <i>Sept. 2021 - Aug. 2022</i></p>  |
| miscellanea<br>& projects | <ul style="list-style-type: none"><li>• <a href="#">FerrumFIX</a>, a MIT-licensed Rust implementation of the FIX protocol.</li><li>• <a href="#">Zuloid</a>, a competitive chess engine written in C99 with advanced optimizations e.g. null-move pruning and horizon effect reduction techniques.</li><li>• Knuth reward check of \$2.56. <i>April 2016</i></li></ul>  |
| relevant<br>skills        | <ul style="list-style-type: none"><li>• Proficient in Rust, Go, C, Elixir, Scala; comfortable with new languages.</li><li>• Strong focus on low-latency, high-throughput distributed systems.</li><li>• Familiar with<ul style="list-style-type: none"><li>- GNU/Linux, Docker, Git, CI/CD, IaC (Terraform, Ansible), AWS &amp; GCP main products.</li><li>- PostgreSQL, Cassandra/ScyllaDB, SQLite, Redis, RocksDB.</li></ul></li></ul>  |