

Alvaro Alonso Miguel

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SUMMARY

Founding engineer of the intelligence layer at **Sail** (DeFi yield-optimization protocol); lead a team of 2 engineers. Sole architect of **Sonar** (risk monitoring) and the cross-chain yield-optimization engine. First 6 months in production: **~\$650M of volume routed** across Base and Arbitrum for ~200 users at ~\$600k TVL. Sonar prevented user exposure to two publicly confirmed Q1 2026 DeFi exploits (Moonwell, Resolv). Author of 2 research papers and 2 quarterly performance reports.

EXPERIENCE

Sail (sail.money) — Head of Sail Intelligence

Nov 2024 - Present · Remote

Python · NumPy · PyTorch · MongoDB · ethers.js · Multicall3 · FastAPI · Next.js

- Founded the intelligence layer end-to-end (yield engine, risk system Sonar, DB schema, first UIs) and lead a team of 2 engineers; presented to venture investors during fundraising and led roadmap discussions with the CEO.
- Designed the optimization engine: simulated annealing with Metropolis-Hastings for non-convex allocation, CNN meta-controller (3-5× search-space reduction), z-score spike classification on 1d / 7d / 30d baselines, financial-inertia cutting churn 43%.
- **Q4 2025:** 8.91% mean APY across 20 protocols on Base + Arbitrum, +5.43% vs. best static source, +123.87% vs. 3-month U.S. T-Bills. **Q1 2026:** 6.06% USD APY across 32 protocol/network combinations, +47.1% vs. market median. Net of gas, bridge, and protocol fees.
- Built **Sonar**: on-chain monitoring, oracle/minting/admin anomaly detection, automatic suspension of risky sources. Pulled user exposure before two Q1 2026 exploits — **Moonwell oracle** (Feb 15, \$1.78M bad debt, 181 borrowers) and **Resolv** (Mar 22, ~\$80M minted via compromised AWS KMS key, ~\$25M extracted).

Accelya — Software Engineer I · Java · C# · .NET · SQL

Dec 2023 - Nov 2024

- Built front-end and back-end for a payments management application across the full SDLC, working in an Agile sprint cadence.

Career break — international travel and industry exploration

Jul 2023 - Nov 2023

- Post-graduation travel across South Korea and the U.S. West Coast (San Francisco, Cupertino, Stanford, Berkeley); met engineers at Apple and Berkeley alumni while visiting family.

Deloitte — Technology Strategy & Transformation Intern · RapidMiner · Dataiku · Alteryx

Mar 2023 - Jun 2023

- Market research and analysis for technology clients in the data division; worked alongside senior consultants on solution design and participated in client meetings and presentations.

European Union Agency for Railways — Software Engineering Intern

Nov 2022 - Feb 2023

SPARQL · SHACL · RDF · JavaScript

- Implemented SHACL validation shapes for the knowledge graph powering the EUAR maps application; built a web dashboard for browsing the validation reports.

EDUCATION

Universidad Politécnica de Madrid — B.S. Computer Science

Jun 2023 · GPA 8.56 / 10

Awards — *Matriculas de Honor* (top distinction) in Operating Systems, Compilers, Semantic Web & Knowledge Graphs, Art of Programming, Prolog, Programming Project, Data Center Project.

PUBLICATIONS — sole-author

- ▶ Cross-Chain Optimization Engine V2 Jan 2026
- ▶ Cross-Chain Optimization Engine V1 Oct 2025
- ▶ Sail Agent Performance Analysis — Q4 2025 Jan 2026
- ▶ Sail Agent Performance Analysis — Q1 2026 Apr 2026

SELECTED PROJECTS

optcg — investment portfolio tracker. Python · SQLite · Textual TUI · ~6.8k LOC. Live price scraping with Cloudflare-aware cookie pipeline; offline HTML dashboard; iCloud sync; per-item P&L.

Poker Vision — image acquisition, VGG16-based card recognition, Monte Carlo equity simulation. Python · PyTorch · OpenCV. Documented in a university publication.

Figbot — Java multi-agent system for Twitch chat moderation: blacklist banning, bad-language ratio analysis, GUI for reviewing automated decisions.

SKILLS

Stack & methods: Python, Java, C, C#, JavaScript/TypeScript, SQL · NumPy, scikit-learn, PyTorch · CNNs, simulated annealing, Monte Carlo, constrained MDPs, anomaly detection, on-chain risk modeling · FastAPI, Next.js, React, .NET, MongoDB · Web3, ethers.js, web3.py, Multicall3, AWS · Git, GitHub Actions (CI/CD), Docker, LaTeX · Agile · Spanish (native), English (C1), French (basic)