

# Samuel Martin Frias

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Software Engineer with years of experience building high-performance systems (C#, TypeScript, Python) and optimizing real-time financial infrastructure used by hedge funds, energy traders, and payment platforms.

## EXPERIENCE

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Jul - Now	<b>Credit Agricole Investment Bank, Senior Software Engineer</b> <i>Technologies: C#, .NET Core, Azure DevOps, Octopus deploy</i> <ul style="list-style-type: none"><li>• Working with the FX and FX Options teams to develop and deploy custom software for trade capture, risk and PnL. Integrating EMS, OMS, Market Data, Orchestrade, and Front office tools.</li></ul>	London, UK
2021 - 2025	<b>Orchestrade (Financial Software Provider), Software Engineer &amp; Solutions Architect</b> <i>Technologies: C#, TypeScript, .NET Core, Python, Docker/Kubernetes, AWS/Azure, SvelteKit, SignalR, RabbitMQ, PostgreSQL</i> <ul style="list-style-type: none"><li>• Led end-to-end development of Orchestrade's Python SDK, adopted by institutional clients (hedge funds, energy firms) to analyze risk/P&amp;L and market data, giving access to results from reports directly into Pandas/DataFrame format.</li><li>• Spearheaded pre-sales technical engagements with CTOs at multi-billion dollar hedge funds, banks, and commodity traders, delivering custom PoCs for real-time trade pricing and risk analysis, integrating the client's custom quantitative libraries.</li><li>• Architected a refactor of our real-time risk engine using multithreaded C#, reducing portfolio-wide computation time by 54% by utilizing an optimistic compute approach and parallelisation.</li><li>• Built a TypeScript/SvelteKit front-end with SignalR live updates, achieving &lt;100ms latency for real-time P&amp;L dashboards for Front Office users.</li><li>• Designed and maintained a REST API (ASP.NET Core) service, which boosted client adherence and acquisition. The REST API was built with performance and usability in mind, compliant with OpenAPI standards. The API is used in production by the largest european neobank for its payment system.</li><li>• Containerized the whole application, streamlining the deployment to a single docker-compose, cutting deployment time by 70% and enabling hybrid cloud scalability.</li></ul>	London, UK
2021	<b>DarkTrace, Cybersecurity Specialist</b>	London, UK
	<ul style="list-style-type: none"><li>• Provided technical expertise in the sale process of the core product offering. Talking to client's technical teams to understand how Darktrace's technology offering works, describing the Machine Learning algorithms and how the product fits in the network to detect anomalies and take a proactive cybersecurity approach.</li></ul>	
2020	<b>Imperial College London, Mathematical Modelling Researcher</b> <i>6 month research grant for deploying the outcome of my master thesis into production</i> <ul style="list-style-type: none"><li>• Researched and implemented a novel analytical model prediction method using Gaussian Process, Bayesian learning and machine learning on time-series data, improving model accuracy by 32% vs. traditional methods.</li></ul>	London, UK

## PROJECTS

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### Paced.app - A complete multiplatform productivity app | Typescript, Svelte, Rust

- A single codebase that can be deployed to the web, native iOS, Android, Windows, Linux and MacOS.
- Learning how to architect, manage, and maintain large javascript projects. The application has real time updates support using Sockets, modern UI using Shadcn. Deployable as a static site, SSR, Node.JS server or serverless.

### Cherris – High-Performance Chess Engine | Rust, Tauri

- Engine achieves 10M nodes/sec via bitboard representations and alpha-beta pruning with transposition tables.
- Created a modern UI with React and Tauri to play with the multithreaded Rust based engine.

### Smart Baby Buggy (Computer Vision) | Python, OpenCV, TensorFlow

- Trained CNN model (98% accuracy) for obstacle detection on crowdsourced image data.
- Featured in Huffington Post and Evening Standard; prototype tested by Royal National Institute of Blind People (RNIB).

## EDUCATION

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2016-2020	<b>Imperial College London - MEng Biomedical Engineering</b>	London, UK
	<b>Awards:</b> Best Master's Thesis (Top 1% of 110+ students) Relevant Coursework: Machine Learning, Control Systems, C++ Programming, Statistical Signal Processing Co-Founder & Lead Organizer: Algorithmic trading society. Grew society to 300+ members; partnered with BlackRock to host Europe's largest quant finance competition (Algothon), attracting 200+ participants annually. Taught workshops on Python for algorithmic trading and backtesting strategies using historical tick data.	

## SKILLS

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**Languages:** C#, TypeScript, Python, Rust, SQL

**Frameworks:** .NET Core, SvelteKit, React/Next.js, ASP.NET Core

**Tools:** Docker/Kubernetes, AWS/Azure, GitHub Actions, RabbitMQ, PostgreSQL

**Languages:** Spanish (Native), English (Native), German (C1), French (B1)