Alexander Ivanov

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EDUCATION

Imperial College London | MEng Computing *Sep 2024 – Jun 2028* | London, UK

- First Class Honours in Year 1 (72%) and Year 2 (76%).
- Relevant modules: Software Engineering Design (Java, TDD, JUnit), Algorithms & Data Structures, Databases, OS.
- Computing Academic Representative, elected for the Year 1 cohort of 200+ students.
- Member of Algo Trading Society, Boxing Society, Ex Vice-chair Cinema Society, Ex Treasurer of Southside Imperial Halls

Wallington County Grammar School | Secondary Education *Sep 2017 – Jun 2024* | London, UK

- A-levels: Computer Science (A*), Further Mathematics (A*), Mathematics (A*), Physics (A). President of CS Society.

EXPERIENCE

Netwealth (wealth management) | Software Engineering Intern *Jun 2026 – Present* | London, UK

- Rewrote a string-typed portfolio drift calculation built on nested loops and hardcoded logic into a 15-stage typed C#/.NET microservice with immutable data structures, cutting a full reporting day over ∼10,000 client portfolios from 87s to 6.4s (∼13×) and moving 11 spreadsheet-based and legacy console processes onto Cosmos DB.
- Exposed 3 REST endpoints over Cosmos saved output so the internal admin system can poll/query drift.
- Owned the account-details page in a legacy Angular-to-Blazor migration used by >10 ops and support staff, replacing MediatR handler with Refit clients across Azure Table/Blob Storage, a Dataverse CRM sync and Identity Server.

AWS & T. Rowe Price | Spring Insight Programmes *2025, 2026* | London, UK

PROJECTS

Clearway | *Python, FastAPI, React Native, TypeScript, Claude Code* – Imperial group project (GitHub) (Demo) *2026*

- Built a full-stack mobile journey planner for neurodivergent travellers, ranking routes by a custom sensory-load score (noise, crowd, heat, light, smell) matched to each user's saved profile, validated with 5+ real users.
- Designed a single-source-of-truth OpenAPI contract auto-generating typed TypeScript clients, with a CI drift guard that blocks merges on backend/frontend schema mismatch across 17 REST endpoints.

Order Book Engine | *C++20, GTest, GitHub Actions* (GitHub) *2026*

- Engineered a price-time priority matching engine sustaining 3.8M orders/sec at 216ns median and 876ns p99 latency over 5M operations on a core-pinned i7-1185G7, with O(1) cancellation via intrusive iterators stored per order.
- Built a GTest unit-test suite covering core matching, cancellation and expiry logic; wired into a CI pipeline on every push.

WACC Compiler | *Scala, GitLab CI/CDs* – Imperial group project *2025*

- Designed an interference-graph register allocator with Chaitin-style graph colouring, liveness analysis, move coalescing and copy propagation; adopted min-use cutting memory usage by 14% and compile time by 39%.
- Applied CFG-level optimisations plus peephole passes – reducing generated assembly by 29% and memory usage by 31%.

Algothon '24 | *Python, REST APIs* – finished top 30% (GitHub) *2024*

- Built a real-time data pipeline integrating 3 third-party REST APIs (Slack, Google, broker exchange) for live market-data ingestion, parsing and automated trade execution – cutting hands-on operator time by >80%.
- Designed a strategy-selection service combining 15+ signal sources via Black-Litterman optimisation under per-strategy weight constraints, producing a Sharpe ratio of 0.647 on out-of-sample data.

IBM Z Datathon | *Python, sklearn, Docker, IBM LinuxONE* *2024*

- Developed an ML model to detect fraudulent e-commerce transactions, achieving 97.68% accuracy in 24 hours.
- Finished 2nd in London; awarded £250, 3-month ambassador mentorship, a speaking invitation at a GSE UK conference.

SKILLS & INTERESTS

- **Languages:** Python, C++, C#, Java, C, Scala, Kotlin, TypeScript, SQL, Bash
- **Frameworks & Libraries:** Blazor, Angular, React, .NET, Next.js
- **Tools & Cloud:** Git, GitHub, Docker, AWS (S3), Postman, VS Code, Azure (Cosmos DB, Table Storage, Blobs), MongoDB
- **Methodologies:** Agile/Scrum, CI/CD (GitHub Actions, GitLab), REST APIs, TDD, AI-assisted development.
- **Interests:** Boxing, Cinema, Padel, Lightning Talks, Card Tricks