Saul Cooperman

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Summary

Software Engineer focused on building reliable, high-performance distributed systems in C++ and Python.
Currently developing latency-sensitive middleware at Bloomberg L.P., supporting thousands of real-time services.
Strong background in multithreading, distributed systems, and cross-team engineering.

Experience

Bloomberg L.P., Software Engineer — London, UK
Sept 2024 – present
1 year 5 months

- Core contributor to a proprietary distributed messaging platform handling 300B+ messages/day with 99.999% uptime, serving as critical infrastructure firm-wide.
- Designed and maintained high-performance multithreaded SDKs in C++ and Python (Cython bindings) used by 17,000+ internal microservices across heterogeneous environments.
- Built and owned a schema-driven Python code-generation framework, growing adoption from ~700 to 1,600+ production services and shipping versioned internal packages at scale.
- Led observability and diagnostics improvements (metrics, logging, tracing) across core services, reducing incident detection and root-cause time from hours/days to seconds.
- Resolved ThreadSanitizer-reported concurrency issues in Bloomberg's BDE C++ libraries as part of the C++ Guild.

Bloomberg L.P., Software Engineer Intern — London, UK
June 2023 – Sept 2023
4 months

- Built a system to analyse service request data and assess impact of backward-incompatible message schema changes.
- Enabled teams to safely remove unused schema elements and improve maintainability.

Education

BSc **University of Leeds**, Computer Science — Leeds, UK
Sept 2021 – July 2024

- First Class Honours.
- Final Year Project (First): A neuromechanical model of C. elegans steering behaviour integrating sensory and neural mechanisms, optimized using evolutionary algorithms.

A-Level / Pre-U **City of London School**, Mathematics, Further Mathematics, Physics, Chemistry — London, UK
Sept 2019 – July 2021

- Mathematics/Further Mathematics **D1** (**A****).
- Awarded "The Worshipful Company of Needlemaker's Prize for Information Technology and Computing".

GCSE **Immanuel College**, Mathematics, Further Mathematics, Computer Science, Electronics… — London, UK
Sept 2016 – July 2019

- 11 GCSEs (Grades 7-9)

Personal Projects

Generic Compilation Database Generator

- Reimplemented the C++ tool Bear in Rust, generating compilation database for Clang tooling by intercepting Linux build processes via LD_PRELOAD, syscall hooking, and a Unix Domain Socket server with Protobuf for structured data exchange.

TFL Times - Real-time Transit App

- Built a React frontend backed by a Python asyncio WebSocket server, including a fully custom typed TTL caching layer with extensive test coverage to minimise external API calls and latency.

Dockerised React Website (CI/CD)

- Developed a production-ready React application containerised with Docker, featuring GitHub Actions CI/CD on a self-hosted runner with automated testing and deployment.