Oliver Raczka

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Skills

Languages: Python, C, C++, Rust, JavaScript, Java, SQL, HTML/CSS
Frameworks & Libraries: React, Node.js, Express, FastAPI, Streamlit, NumPy, Pandas, SciPy, Plotly, SDL2, OpenGL
Tools & Infrastructure: Git, Docker, Docker Compose, GitHub Actions CI/CD, Linux, SQLite, REST APIs, WebSockets
Practices: Test-Driven Development, Unit/Integration Testing (Pytest, Jest), Agile

Experience

Freelance Web Developer *May 2024 – Present*

- Build and maintain responsive websites for small-business clients using React and Node.js/Express, handling everything from layout and content structure through deployment
- Work directly with clients to scope requirements and turn revision requests into shipped changes, supporting sites after launch as their content and needs change

Desjardins *2024 – Present*
Sales Representative *April 2025 – Present*

- Consult with clients daily by phone and in person, diagnosing their needs and explaining financial products and trade-offs clearly
- Manage a personal book of client relationships, translating recurring client feedback into process improvements for the team

Event Marketing Intern *January 2024 – January 2025*

- Coordinated cross-team event logistics and conducted one-on-one client consultations across multiple concurrent events

Projects

Options Screener | *Python, Financial Modelling, REST APIs, LLM Integration* github.com/Ollie1o1/options

- Built and actively maintain a 27-factor options analysis platform (1,418 commits, 185k LOC, 34 subpackages) that ingests live chains from six data providers, computing Black-Scholes pricing, full Greeks, and SVI implied-volatility fits across 8,000+ contracts
- Validated the ranking model against 7 years of end-of-day chains with walk-forward out-of-sample testing, **publishing negative results for strategies that showed no edge**. A forward-cohort gate withholds any model that has not cleared a significance bar
- Traded the screener's signals by hand to **$9,200+ in realized profit**, choosing entries from its ranked output rather than letting the tool trade on its own
- Engineered a fault-tolerant data layer with multi-tier SQLite caching, retry and rate-limit handling, and per-quote provenance tracking so stale quotes are flagged rather than silently served downstream
- Shipped a Streamlit dashboard, a FastAPI service, and Discord/Telegram bots on a shared core, backed by a 6,000-test Pytest suite and GitHub Actions CI

OVERDRIVE (3D Arena Shooter) | *C++, SDL2, OpenGL 3.3, GLSL, WebAssembly* github.com/Ollie1o1/3d_shooter

- Built a 3D arena shooter from scratch in 27,000 lines of C++ with no game engine, running physics on a fixed 60 Hz timestep decoupled from render framerate; compiles to WebAssembly (**playable on my website**) and is covered by headless tests in CI
- Implemented air-strafing, grappling, parrying and a melee sword over AABB collision on a spatial grid; 11 arenas, 13 enemy types and 5 bosses, the last a combo-string AI tuned against scripted bots, plus time-trial, endless and boss modes
- Wrote a multi-pass OpenGL renderer with instanced enemy drawing, Blinn-Phong point lighting, three-pass bloom, and an optional CRT filter (barrel distortion, chromatic aberration, scanlines), with every texture generated procedurally and no external image assets

NES Emulator | *Rust, WebAssembly, Systems Programming* github.com/Ollie1o1/better_emulator

- Wrote a Nintendo Entertainment System emulator implementing all 256 opcodes of the Ricoh 2A03 (6502), a dot-level PPU with Loopy scroll registers, and a five-channel APU including DMC sample playback
- Clocked the PPU and APU on every CPU bus access with hardware-accurate dummy reads and level-triggered IRQs; **matches all 8,991 lines of the nestest reference log** and passes 10 of 12 blargg accuracy test ROMs
- Implemented six cartridge mappers including MMC3 with A12-edge scanline IRQs, around one owning bus struct with no reference counting, and compiled the core to a 73 KB WebAssembly build playable on my website

Education

University of Guelph *Guelph, ON*
Bachelor of Computing, Major in Computer Science *Third Year, Expected April 2028*

Relevant Coursework: Operating Systems, Data Structures, Algorithms, Statistics II, Calculus II, Discrete Structures