

Alexandre Lugovoi

Boston, MA | (347) 440-5694 | lugovoi.alexandre@gmail.com | alexandrelugovoi.dev | linkedin.com/in/alexandre-lugovoi | github.com/Alexlgvcode

EDUCATION

Boston University, College of Arts and Sciences

Boston, MA

B.A. in Computer Science | Minor in Mathematical Statistics

Expected May 2028

- **GPA:** 3.78/4.0 | Dean's List
- **Coursework:** Algorithms, Distributed Systems, Computer Systems, Concepts of Programming Languages (OCaml), Probability in Computing

Yonsei University

Seoul, South Korea

Study Abroad

Mar 2026 – Jun 2026

- **Coursework:** Computer Vision, Human-AI Interaction

SKILLS & INTERESTS

Programming Languages: Python, C++, Java, TypeScript, JavaScript, SQL, Go, C

Libraries & Frameworks: PyTorch, Scikit-learn, NumPy, Pandas, FastAPI, SQLAlchemy, React, Tailwind, YOLO (Ultralytics), Plotly Dash, sentence-transformers, Claude Agent SDK

Tools & Platforms: Git, GitHub Actions, Docker, Supabase (Postgres), DigitalOcean, GCP, E2B, Vercel, ChromaDB, pytest

Concepts: LLM Agents, RAG, REST APIs, CI/CD, Computer Vision, Deep Learning, Machine Learning, Algorithms

Languages: English (Native), French (Native), Russian (Native), German (Intermediate)

Interests: Flag football (Korean champion, Yonsei), golf, photography, mountain road driving, LoL esports

EXPERIENCE

Founding Software Engineer

Dec 2025 – Present

QA2I AG

Schaffhausen, Switzerland (Remote)

- Cut pharma Product Quality Review (PQR) preparation from 3–5 days to under 45 minutes by architecting a multi-agent LLM system with sandboxed code execution that drafts and checks PQRs against EU GMP standards
- Built an LLM-as-judge benchmark that grades generated PQRs value by value against human-authored references (2,000+ values per run), combining tables and rendered OOXML charts, with missing-chart penalties, into one score
- Raised PQR generation accuracy from 79% to 95% by running the benchmark as a regression suite and turning each run's missing charts, misplaced sections and value errors into targeted prompt and agent fixes

Research Assistant

Jul 2025 – Jul 2026

ETH Zurich

Zurich, Switzerland (Remote)

- Designed an SVM decoding pipeline over 1,024-channel neural recordings from 8 brain regions in a VR learning task, showing prefrontal choice decoding rising above chance with learning; merged into the lab's open-source GUI
- Built a natural-language query layer for the same GUI: an LLM tool-calling agent that maps English questions to 15 of its plots, with summaries grounded in computed statistics
- Automated behavioral data validation with linear regression models (Scikit-learn), flagging data quality issues in 15% of trials

PROJECTS & OPEN SOURCE CONTRIBUTIONS

StormCash - Capital One Honorable Mention, HackHarvard 2026 | C++20, WebAssembly, FastAPI, Postgres Oct 2026

- Co-designed an offline payment protocol (ECDSA P-256, hash-chained spend tags) specified by 124 test vectors; built a C++20 verifier matching the Python and TypeScript versions that passes 262 Wycheproof tests and runs in-browser via WebAssembly
- Engineered the FastAPI/Postgres settlement server with a double-entry ledger and an outbox that retries bank transfers until both halves land; pipelined writes cut bulk loads from 46 min to 40s
- Wrote a multithreaded C++ Monte Carlo simulator of the phone-to-phone gossip network, validated against the Python engine on 10 metrics and scaling to 1M residents in 45s per run

Kornia - Open Source Contributor | Python, PyTorch, Ruff, pytest

Oct 2026 – Present

- Contributed 9 merged PRs to kornia, a PyTorch computer vision library with 11k+ GitHub stars, fixing 105 flake8-simplify violations and enforcing 13 lint rules in CI
- Found two always-true test assertions that could never fail and rewrote them as the intended tensor shape checks, restoring coverage the linter's autofix would have left vacuous
- Removed 7 unreachable dispatch branches from the augmentation pipeline after tracing their origin through git history; kept 14 nested guards whose merge would break TorchScript, documenting each inline

Ellipsis - Best Use of DigitalOcean Winner, DivHacks @ Columbia | YOLO11, FastAPI, SUMO | Live

Sep 2026

- With a teammate, built a real-time detection pipeline on 9 live NYC DOT cameras using YOLO11, a custom IoU tracker and lane-mask dwell rules to flag double parking, stopped vehicles and blocked intersections
- Created an evaluation harness against hand-tagged ground truth with cached detections, so rule changes re-score in seconds; threshold tuning reached 88% precision, 93% recall and a 63s median time to alert
- Shipped the FastAPI backend and the dashboard's congestion heatmap, routing each alert to a SUMO simulation that recommends a signal timing change for operator approval