Luke Leh

ll594@cornell.edu | LinkedIn.com/in/lukeleh/ | github.com/leukwnl | lukeleh.com

EDUCATION

Cornell University, Ann S. Bowers College of Computing and Information Science — May 2025
Bachelor of Arts in **Computer Science**, **GPA: 3.565** — Ithaca, NY
Coursework: Distributed Systems, Computer Networks (TA), Deep Learning, Operating Systems, Functional Programming, Data Structures & Algorithms, Machine Learning, Information Networks (Graduate-level), Object-Oriented Programming

TECHNICAL SKILLS

Languages: Python, C++, Go, Java, C#, JavaScript, SQL, Objective-C, HTML/CSS, PyTorch
Systems/**Cloud:** Azure, Docker, Kubernetes, Redis, MongoDB, GitHub Actions, Firebase, FastAPI, Kotlin, AndroidSDK
Specialties: WebRTC, Unity, Godot, SDL | **Spoken:** English, Chinese, Malay (Native), Japanese (Intermediate)

EXPERIENCE

PETRONAS Digital | *Azure OpenAI, Cognitive Search, Azure Functions, Kafka* — May 2024 – Aug 2024
Software Engineering Intern — Kuala Lumpur, Malaysia
- Built ingestion and embedding pipelines with Azure Functions and Kafka to to index ∼5,000 FAQs, SOPs, and technical docs for a real-time Retrieval-Augmented Generation (RAG) knowledge assistant used by 700+ employees.
- Implemented hybrid search (BM25 + vector embeddings with Azure Cognitive Search) improving query relevance by 25%.
- Configured Redis caching and autoscaling to support ∼3,000 weekly employee queries without performance degradation.
- Gained exposure to enterprise practices, Azure AD for authentication and Application Insights for observability.

Cornell Development in Games | *Unity, LibGDX, Java, C#* — Aug 2023 – May 2025
Project Lead / Gameplay Engineer — Ithaca, NY
- Directed a 20-member cross-disciplinary student team through semester-long agile sprints, coordinating design, art, and engineering to deliver 3 original titles (1 showcased at PAX East).
- Designed and implemented core gameplay systems (pathfinding, predictive aiming, spline-based enemy movement) optimized with object pooling to keep 2D gameplay smooth on constrained hardware.
- Owned build and deployment workflows using GitHub Actions & Gradle, and XCode Cloud for iOS/Mac, doubling iteration speed from prototype to playtest and reducing integration issues across the team.
- Developed in-game telemetry and custom debugging tools (Dear ImGui) adopted by the full team, reducing QA turnaround.

Environmental Data Governance Initiative | *Python, SQL, Flask, Docker* — May 2023 – May 2024
Backend Developer — Ithaca, NY
- Re-engineered a legacy R pipeline in Python/Docker, cutting runtime 15%, and built cron-based workflows to auto-generate 300+ daily environmental compliance reports with accuracy and regulatory alignment for NGO partners.
- Designed backend ingestion and transformation layers to serve JSON endpoints, enabling sub-2s interactive geospatial filtering for NGO partners' Flask-based map platform.
- Wrote automated test cases to validate concurrent workflows, improving reliability and reducing regression risks at scale.

Hack4Impact | *Typescript, React* — Sep 2022 – May 2023
Fullstack Developer — Ithaca, NY
- Developed responsive React/TypeScript components for a member archive adopted by chapters across 14 universities.
- Designed and implemented full-stack CRUD workflows by creating database schemas, secure REST API routes, and dynamic form interfaces, enabling students and staff to reliably add, search, and manage thousands of archival records.
- Collaborated in a team of 6 developers, conducting code reviews and shipping features on a two-week sprint cycle.

PROJECTS

Trigger Happy (Audience Favorite Award) | *C++, SDL, Android SDK, Objective-C, WebRTC*
- Built a cross-platform WebRTC controller for multiplayer games, delivering sub-80 ms input latency and ensuring reliable peer connections through Dockerized STUN/TURN servers for NAT traversal and seamless session recovery.
- Designed a modular SDL scenegraph with reusable UI and gameplay systems, supporting platform-agnostic rendering.
- Integrated cross-platform haptics controller, enabling synchronized tactile feedback across iOS and Android systems.

Searchless Chess with Transformers | *PyTorch, FastAPI, Redis, Python*
- Reimplemented DeepMind transformer chess model and served inference through FastAPI with Redis caching.

TED Finds (CS4300 Hall of Fame Award) | *Python, HTML, CSS, Flask, NumPy*
- Implemented an IR web app serving 4.5k+ TED Talks with sub-150ms query latency via SVD-compressed embeddings.