Boshen Lin

(825) 983-2210 | blin1@ualberta.ca | blin2k.github.io | github.com/blin2k | linkedin.com/in/boshen-lin

Education

University of Alberta Edmonton, AB

Bachelor of Science in Computing Science (Honors) *Sept. 2021 – May 2026*

- **First-Author Publication** at CSCE 2025 | **Coursework:** Compilers, OS, Algorithms, ML, Deep Learning, Databases, Software Engineering

Technical Skills

Languages: Python, TypeScript, JavaScript, Kotlin, C++, Java, Go, Rust, SQL, HTML/CSS
Frameworks: React, Vue 3, Next.js, tRPC, GraphQL, Django, Express, Spring Boot, Android SDK, PyTorch
Cloud & DevOps: Amazon Web Services (AWS S3, EC2), Docker, GitHub Actions CI/CD, Firebase, Google Cloud
Data & Tools: PostgreSQL, MongoDB, Redis, REST APIs, Git, Linux, Agile/Scrum, Jira, pytest, Playwright

Experience

Software Engineer Oct. 2025 – Present

University of Alberta – Civil & Environmental Engineering *Edmonton, AB*

- Designed and built modular Android app with event-driven architecture, streaming 5-channel biosignal data via UDP/TCP at 50–200 Hz; engineered Kotlin rendering pipeline with unit tests achieving sub-100ms latency and 99.2% signal fidelity.

Full-Stack Software Engineer Intern Dec. 2024 – Oct. 2025

So Shall We.co *Edmonton, AB*

- Built full-stack analytics platform with microservices architecture (React, TypeScript, Node.js) aggregating 500K+ daily metrics from Google Ads, Meta Ads, and GA4 APIs, reducing manual reporting by 85%.
- Designed automated ETL pipeline with data validation and AWS S3 storage handling 2GB+ daily ingestion with partitioning.
- Containerized services with Docker; deployed CI/CD via GitHub Actions with automated testing and PR review workflows; tracked sprints in Jira; achieved 99.5% pipeline reliability.

Software Engineer May 2024 – Sept. 2024

University of Alberta – Civil & Environmental Engineering *Edmonton, AB*

- Designed and deployed Android app processing 10,000+ real-time sensor data points with HRV analysis pipeline and KDE heatmap visualization on Google Maps; 92% accuracy across 50+ users.

Software Engineer Intern May 2023 – Sept. 2023

Leettle Mint LLC *Pittsburgh, PA*

- Developed Vue 3 SPA with component-level unit tests and real-time financial data visualization serving 1,000+ daily active users.
- Optimized MongoDB queries via compound indexing and Redis caching layer, reducing API latency by 50% while supporting 100+ concurrent connections with pagination and rate limiting.

Projects

Gazprea Compiler | *C++, ANTLR, MLIR*

- Built complete compiler toolchain (lexer, parser, semantic analyzer, MLIR codegen) for a custom language with 50+ grammar rules, type inference, scoped symbol tables, and optimized SSA-form IR generation.

Generative Models Benchmark Suite | *Python, PyTorch, CUDA*

- Implemented VAE, DDPM, DDIM, and Latent Diffusion from scratch in PyTorch; achieved 2.3x training speedup via mixed precision (AMP) and cosine scheduling; benchmarked with FID/SSIM/MSE across 100+ Weights & Biases runs.

Crane Path Optimization | *Python, NumPy, SciPy*

- Developed multi-objective optimization algorithm reducing search complexity by 97% through spherical coordinate transformation; validated on 5 real construction site layouts with collision-free paths.

Awards & Languages

Awards: International Student Scholarship (2021–2023), UAlberta Undergraduate Leadership Award (2023) |
Languages: English, Cantonese (Native), Mandarin (Native)