JINYUAN ZHOU

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EDUCATION

Computer Engineering (BASc) + PEY Co-op, University of Toronto — Expected 2029

- **GPA:** 3.84/4.00

BC Dogwood Diploma, Nanjing Foreign Language School British Columbia Academy — 2022 – 2025

SKILLS

Programming Language:	Rust, Python, C/C++, Verilog, HTML, CSS, JavaScript
Framework & Tools:	FastAPI, PyTorch, Git, SQLAlchemy, MQTT, Agentic Coding
Language:	Chinese (Native), English (Professional Working Proficiency)

EXPERIENCE

Software Engineer Intern — Jun 2026 – Jul 2026
Howso Technology (Huasu Technology) — *Nanjing, Jiangsu, China*

- Implemented motion control and audio functionality for Unitree G1/GO2 robots using MQTT and the Unitree Python SDK
- Designed and integrated a React 19 + FastAPI bid analysis platform with Qdrant-powered RAG for automated response matrix generation, using AI coding agents for implementation
- Debugged and validated robot control workflows through repeated MQTT-based testing on Unitree G1/GO2 platforms

PROJECTS

jsh — Unix Shell in Rust - Developer — May 2026 – Present
Personal Project

- Built an interactive Unix shell in Rust with a custom lexer–parser–AST–executor architecture, supporting quoting, escaping, tilde expansion, built-in commands, and external program execution
- Implemented pipelines, file-descriptor redirection, command sequencing, and `&&`/`||` short-circuit evaluation with correct parsing precedence and Unix exit-status semantics
- Developed command resolution and execution logic for relative and absolute paths, `PATH` lookup, built-in/external command dispatch, and unit/integration tests for shell parsing and process behavior

Reversi bot - Developer — Mar 2026
University of Toronto - APS105 Computer Fundamentals — *Toronto, ON*

- **Ranked 2nd out of 440 students** in the APS105 Computer Fundamentals Reversi competition
- Developed an algorithm to evaluate board positions and select optimal moves under a fixed execution-time constraint
- Optimized search with minimax, iterative deepening, move ordering, and alpha-beta pruning, enabling deeper game-tree exploration within a fixed time limit

Semestra - Developer — Nov 2025 – Aug 2026
Personal Project

- Conceived and designed a full-stack academic management platform for course, assignment, GPA, and academic resource tracking
- Directed AI coding agents to implement the application using React 19, TypeScript, FastAPI, SQLAlchemy, and SQLite
- Designed product requirements and iteratively guided development of features including an extensible plugin system, Google OAuth, and multilingual support

LLMCoTAnalyzer - Developer Apr 2025 – May 2025
AP Statistics 12 Research Project

- Designed and conducted experiments to investigate the relationship between LLM parameter count and repetitive self-verification behavior in chain-of-thought reasoning
- Built a multithreaded Python experimentation pipeline to query multiple LLMs through OpenAI-compatible APIs, collect reasoning traces, and automatically process results across repeated trials
- Designed and integrated a semantic classification workflow using Transformer embeddings and logistic regression to identify self-verification statements in reasoning traces