

YUEZHEN (LILY) DONG

(647)-282-0624 ◇ Ningmengchem@gmail.com ◇ yuezhen-dong.com

RELEVANT SKILLS

Languages	Python, Java, C/C++, TypeScript/JS, SQL, HTML/CSS, Bash
Frameworks	Spring Boot, React/Next.js, Node/Express, Three.js, Flask, Pygame, Arduino, GraphQL
Developer Tools	AWS, Docker, Kubernetes, Git, Maven, Linux, PostgreSQL, AutoCAD, VSCode, IntelliJ

EDUCATION

University of Waterloo - Faculty of Engineering	Expected Graduation MAY 2029
BASc in Electrical Engineering	Waterloo, ON, CAN

ACHIEVEMENTS

IBDP Graduate CaYPT (Canadian Young Physicists' Tournament) National Champion IYPT (International Young Physicists' Tournament) Bronze Medalist FIRST Robotics Provincial Semi-Finalist

WORK EXPERIENCE

Web Developer Coop	JAN 2025 - APR 2025
Java, Spring Boot, Maven, Apache POI, Git	AGF Investments

- Developed a **Java-based** ScoreCard application, featuring robust file archiving, large XLSX handling via **Apache POI streaming**, data validation/transformation, and a flexible properties-based configuration system.
- Developed an application ingesting large XLSX files with **Apache POI streaming**, filtering by date/time, archiving inputs, and generating Excel/CSV reports. Automated email distribution under **Maven/Git** with **Spring Boot**.
- Developed **Pega** test automation from scratch using scenario and **Selenium** tests for both front-end and back-end.

Technology Mentor	OCT 2020 - AUG 2024
iOS, iPadOS, macOS, Windows, Linux	CyberSeniors

- Guided **100+** seniors to proficiency in using various **operating systems**, completing the program in one month.
- Taught essential skills for setting up software accounts, configuring devices, and utilizing applications for daily tasks.

Website Developer	DEC 2020 - DEC 2023
Java, HTML/CSS, Javascript, Blender, Git	Beyond the Wards/Kindness Catalogue

- Built a dynamic website using **Java** for backend and **HTML/CSS**, **JavaScript** for frontend, ensuring responsive design and smooth user interaction.

PERSONAL PROJECTS

Ecoland: AI Ecosystem Simulator
Java, JavaFX, OOP, AI, GeneticAlgorithms

- Built a **Java** simulator with custom **AI**, pathfinding, and genetic algorithms to model various species interactions.
- Employed **concurrency**, **data structures**, and **OOP** principles for large-scale simulations, enabling real-time monitoring, performance tuning, and modular feature expansions.

3D Data Sandbox
Electron, Node.js, Three.js, PapaParse, JavaScript

- Built a cross-platform **Electron** desktop application using **Three.js** and **Node.js/PapaParse** for offline 3D visualization, parsing, and analysis of local CSV/JSON datasets.
- Implemented scatter, grid, and K-means layouts with outlier detection, correlation lines, and user-friendly UI controls for filtering, highlighting, and exporting.

Puppy Portal Puzzle: Time-Trotting Dogventure
Python, Pygame, Pathfinding, Time-Manipulation, Puzzle Architecture

- Developed a controlled **time-travel** mechanic with simultaneous clones, integrating **BFS pathfinding** for AI enemies.
- Structured the game using **Python OOP** and event-driven architecture, implementing multi-layer switch logic, portal systems, and crate interactions while ensuring seamless performance under increasing complexity.

Portfolio Website
Vite-React, TypeScript, TailwindCSS, ThreeJS, Blender, Git

- Developed and designed a reactive website using **vite-react**, **threejs** for 3D visuals, and **TailwindCSS**.
- Created and animated 3D models for the website using ThreeJS and React. Github for VC and deployed on Vercel.