# YUEZHEN (LILY) DONG

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

## RELEVANT SKILLS

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|---|---|
| **Languages** | Python, Java, SQL, C/C++, JavaScript, HTML/CSS |
| **Frameworks** | Scrum, Spring Boot, Agile, React, ThreeJS, NextJS, Arduino, Pygame, Flask, OOP |
| **Developer Tools** | Git, Maven, Linux, PEGA, OpenCV, OpenGL, VSCode, Android Studio, Eclipse, IntelliJ |

## EDUCATION

**University of Waterloo - Faculty of Engineering**　　　　　　　　　　　Expected Graduation MAY 2029
*BASc in Electrical Engineering – President's Scholarship of Distinction $2000*　　　　*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

**Junior 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 a **PegaRecon** app that ingests large XLSX files via **Apache POI streaming**, applies date/time filtering and **duplicate-skip** logic, archives input, and outputs consolidated Excel/CSV reports—fully configurable, automated email distributions, and maintained under **Maven/Git** with **Spring Boot**.

· Developed automated **Pega** test cases verifying front-end **UI** interactions, ensuring robust coverage and reliability.

**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.

· Created and integrated 3D models with **Blender** and JavaScript, while managing project versions with Git.

## PERSONAL PROJECTS

**Marangoni Flow and Rayleigh-Taylor Instability in Evaporating Fluids**　　　JUL 2021 - JUL 2022
*Arduino, EasyEDA, ImageJ, Tracker, MatPlotLib, Comsol Multiphysics, MATLAB*

· Investigated **Marangoni flow and Rayleigh-Taylor instability** by analyzing fluid dynamics at interfaces to study droplet behavior in experiments.

· Developed and optimized an **interferometry analysis** system with ImageJ, Tracker, and OpenCV for high-resolution tension measurement and analysis.

· Performed dynamic simulations using **MATLAB** and **Comsol**, achieving **93%** accuracy to verify experimental results with simulations.

**Grätzel Cell**　　　　　　　　　　　　　　　　　　　　　　　JUL 2023 - JUL 2024
*Arduino, EasyEDA, OnShape, Python, JSON, OpenCV, Tracker, MatPlotLib*

· Constructed and optimized a **dye-sensitized solar cell** using titanium dioxide and iodine electrolyte to study the mechanisms of photovoltaic energy conversion.

· Evaluated the influence of electrolyte concentration, glass conductivity, $TiO_2$ layer thickness, and temperature on cell efficiency through **electrochemical analysis** and precise measurements using multimeters and lux meters.

**Portfolio Website**　　　　　　　　　　　　　　　　　　　　　　　AUG 2024
*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.