YUEZHEN (LILY) DONG

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RELEVANT SKILLS

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, 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.