

Celeste Luo

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Skills

Languages JavaScript, Python, TypeScript, Java, C/C++, PHP, Go, Ruby
Tools & Technologies React, Node.js, Django, GraphQL, AngularJS, PostgreSQL, Docker, Linux

Education

University of Waterloo

BACHELOR OF COMPUTER SCIENCE

Waterloo, ON

Sep 2022 - Apr 2027

- **Activities:** Women in Computer Science, Cybersecurity & Privacy Institute Student
- **Courses:** Data Structures, Object-Oriented Software Development, C/C++; 3.9 GPA

Experience

Undergraduate Research Assistant

UNIVERSITY OF WATERLOO • DAVID R. CHERITON SCHOOL OF COMPUTER SCIENCE

Waterloo, ON

Sep 2023 - present

- Implemented Python SciKit **random forest** & other deep learning models for **network bandwidth prediction** research
- Evaluated existing systems on cellular downlink prediction using pandas, numpy, matplotlib, and Jupyter Notebook to process raw datasets and test & train models under different tree configurations

Security Software Developer

ISARA CORPORATION

(Remote) Waterloo, ON

May 2023 - Aug 2023

- **Improved by 85%** data export generation efficiency by implementing an Express.js module REST API endpoint
- Substantially increased data search and handling speed & capacity to **over 2 million records** by migrating a fundamental component of the technology stack to Elasticsearch within a tight deadline
- Integrated Elasticsearch into a **React/TypeScript** search client, with context hooks for data search & filtering components, and customized data querying syntax and fields using **GraphQL** & Painless scripting language
- Built a modular Jest unit testing system utilizing JavaScript ES6 & TypeScript for maintainable and rapid test creation
- Set up automated **Docker** project packaging and **PostgreSQL** database provisioning scripts with SSL certificate configuration

Site Developer

COMPUTER PROGRAMMING CLUB @ W.L. MACKENZIE C.I.

Toronto, Ontario

Sep 2021 - Jun 2022

- Contributed to ctf.mcpt.ca, an online judge for cybersecurity challenge problems and school-wide and provincial contests, hosting **over 100 problems, 375 users & 5000 submissions**
- Developed an asynchronous client-facing module in JavaScript to self-administer Docker resources on-demand via REST API
- Designed and built a **mobile-responsive** user interface using Sass and Python **Django** class-based views

Website Developer

ACTION CIND

Ontario, Canada

Feb 2019 - present

- Redesigned and developed the **W3C-accessible** main site from scratch, using **PHP** to extend WordPress plugin and themes
- Audited site security and hardened system infrastructure

Honors & Awards

European Cyber Security Challenge

1st Place (Team Canada) in international bracket, 10th of 34 countries, *focus: digital forensics*

European Union Agency for Cybersecurity

2023

picoCTF Cybersecurity Competition

1st Place in Canada, 3rd worldwide of 7794 teams / 18000+ students, *focus: digital forensics*

Carnegie Mellon University

2022

CyberPatriot Cybersecurity Competition

1st Place in Canada, 5th worldwide of 5254 teams / 19000+ students, *focus: Windows OS security & networking*

US Air Force Association

2021, 2022

Projects

words-api Express.js API for random words by parts of speech; open source, 30+ stars on GitHub
Dark Docs Open source Google CSS Dark theme contributor; 46 000+ installs, 1000+ installs / week
Quiz Builder Features React drag-n-drop components, Python Flask REST API, SQLite database
Minesweeper Variant of minesweeper in React & TypeScript, deployed with GitHub Actions

