

# Anray Liu

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## Experience

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### Co-op Cloud Engineer

May 2025 – Present

*Statistics Canada*

- Designed and developed an open-source **Kubernetes microservice** using **Go** to discover and delete unused storage resources, **reducing cloud expenses by \$20,000**.
- Developed and debugged **CI/CD pipelines** with **GitHub Actions** to run tests, security scans, builds, and pushes to Azure Container Registry, increasing team productivity by 25%.
- Delivered applications to **Azure Kubernetes Service** with YAML manifests and **Docker images** while managing production with **ArgoCD**.
- Ensured high communication and efficiency standards with **agile development** by actively contributing to stand-ups, sprints, and epics.

### Mathematics Research Intern

May 2024 – Aug 2024

*University of Ottawa*

- Researched visualization methods for optimal transport theory (most efficient way to move one mass distribution to another) with mathematics professor and team of 15+ researchers.
- Created a customized simulation and visualization library using **Python**, **Java**, and **NumPy**, enabling research team to present their findings in an efficient manner and **reducing preparation time by 90%**.

## Projects

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### Pyvidplayer2 API

July 2023 - Present

- Open-source **Python** library for video processing and playback, with **38,000+ downloads** and 2+ years of consistent maintenance.
- Leveraged **Git** and **GitHub** extensively to collaborate with **open-source developers**, resulting in 27 version updates and automatic deployment pipelines.
- Implemented **96% test coverage** and maintained **detailed documentation** to ensure library quality.

### Home Server

April 2025 - August 2025

- Created a home server from scratch by assembling hardware, configuring **networking** rules and VPNs, and using **virtual machines** and **Docker** containers to host services.
- Utilized ZFS-RAID file system to achieve data redundancy and increase server **uptime to 98%**.
- Deployed a network-attached-storage system and **Jenkins CI/CD** to **increase personal development productivity by 30%**.

### Personal Portfolio

July 2025 - Present

- Developed a JetBrains-inspired, high-performance personal portfolio using **C++**, **WebAssembly**, **HTML/CSS**, and **JavaScript** to share projects and work experiences.
- Hosted with Vercel and Cloudflare, accessible through <https://www.anrayliu.ca>.

## Skills and Certifications

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- Python, Java, C++, Go, JavaScript, Kubernetes, Docker, Azure, Linux, ArgoCD, Git, GitHub/GitLab, HTML/CSS, Bash, WebAssembly, Jenkins, GitHub Actions, Jira
- Canadian Computing Contest Certificate of Distinction, Senior Level, awarded in 2023 to the top 25%

## Education

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University of Ottawa, Honours Bachelor's in Computer Science with Co-op

Fall 2023 – Winter 2027

- GPA: 3.9/4.0
- Relevant courses: Data Structures and Algorithms I, Computer Architecture I, Databases I