

Toronto, Ontario  
Canada

# Billy Lee

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## Education

### University of Waterloo

Sept 2020 – Aug 2024

- Honours Bachelor of Mathematics. Cumulative GPA: 88.5/100.
- Double Major in Computational Mathematics and Combinatorics & Optimization.
- Minor in Computer Science.

## Experience

### Lead Developer

University of Waterloo

Jan 2024 – May 2024

- Developed a **Next.js**-based web platform for a figures of speech research group, enabling user submissions and annotations of figure instances.
- Revamped the CI/CD process using **GitLab pipelines**, **Docker**, and **Docker Compose**, automating and accelerating testing, building, and deployment phases, and saving over 30 minutes per deployment.
- Established a robust staging environment to streamline testing and quality assurance, ensuring a more reliable and efficient development workflow.
- Hosted weekly stand-up meetings, conducted code reviews for merge requests, and set up a documentation site with a CD pipeline to ensure proper project documentation.

### Full Stack Developer

University of Waterloo

Sept 2023 – Dec 2023

- Implemented advanced features including rich text support and dynamic highlighting functionality for annotations.
- Reduced page load time by 80% by consolidating data retrieval to a single API call with server-side props, utilizing **Context API** for efficient data distribution, and implementing pagination to minimize data overload.
- Engineered and deployed robust backend endpoints for the **Golang**-based REST API with MySQL database.
- Authored comprehensive tests using **Jest** and **React Testing Library** to ensure code integrity and functionality.

### Software Developer Intern

Hewlett Packard Enterprise

May 2023 – Aug 2023

- Developed and launched a **React.js**-based demo portal as the sole developer, effectively showcasing HPE GreenLake solutions and streamlining the demo process by at least 50%.
- Orchestrated the automation and optimization of demo processes, utilizing **Python** and **Bash** scripts, and managed VM environments to ensure efficient and effective demo execution, reducing setup time by approximately 80%.

### Software Developer Intern

Bolee Machine Tool Ltd.

Apr 2023 – May 2023

- Tackled the challenge of time-consuming manual product entries on the company's WordPress e-commerce site, previously reliant on a lengthy admin GUI process.
- Revolutionized product management by developing a **Python**-based automation tool using **Selenium** for the company's WordPress e-commerce site; achieved a remarkable 99% reduction in time required for bulk price updates.
- Managed the company's server system by configuring the VPN server and upgrading the storage of the NAS server.

## Projects

- **UWPlan** 🔄. Engineered a Next.js-powered degree planning tool with Auth.js authentication, shadcn/ui components, and PostgreSQL database, serving 500+ daily users with course mapping and academic progress visualization features.
- **Coding Theory Calculator** 🔄. Developed with Next.js and deployed on a VPS via Docker, handling 50+ users daily.

## Skills

- **Languages:** TypeScript, JavaScript, HTML, CSS, Python, C++, Go, Bash, SQL, LaTeX, MATLAB
- **Technologies/Frameworks:** React, Next.js, Socket.io, Node.js, Express.js, MongoDB, PostgreSQL, MySQL, TailwindCSS, Docker, Github Actions, GitLab CI/CD Pipelines, Jest, React Testing Library, Selenium, Git, Linux/Unix.