

Billy Lee

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Education

University of Waterloo – Honours Bachelor of Mathematics (GPA: 3.9/4.0)

Oct 2024

Experience

Lead Developer, University of Waterloo

Jan 2024 – May 2024

- Led the development of a **Next.js**-based web platform for a figures-of-speech research group, serving 10+ researchers and enabling user submissions and annotations of figure instances.
- Revamped the CI/CD pipeline using **GitLab**, **Docker**, and **Docker Compose**, reducing deployment time by 70%.
- Established a robust staging environment to improve testing efficiency and reduce production defects by 90%, ensuring a more reliable and high-quality development workflow.
- Coordinated an **Agile** workflow, leading weekly stand-ups and code reviews for a team of 5 developers, and implemented a documentation site to maintain comprehensive, up-to-date project documentation.

Full Stack Developer, University of Waterloo

Sept 2023 – Dec 2023

- Implemented advanced features like dynamic highlighting functionality with rich text support using Tiptap.
- 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 tested 10 **Golang REST** endpoints backed by **MySQL**, improving query response times by 20%.
- Authored comprehensive tests using **Jest** and **React Testing Library**, increasing code coverage by 30%.

Software Developer Intern, Hewlett Packard Enterprise

May 2023 – Aug 2023

- Developed and launched a **React.js**-based demo portal viewed by 10 internal stakeholders, effectively showcasing HPE GreenLake solutions and reducing the average demo preparation time by 50%.
- Automated and optimized demo workflows with **Python** and **Bash** scripts, and provisioned VM environments for demonstrations, reducing manual setup time by 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 of around 5 minutes per product.
- Revolutionized product management by developing a **Python**-based automation tool using **Selenium** for the company's WordPress e-commerce site; achieved a 99% reduction in time required for bulk price updates.
- Managed and configured company VPN and NAS storage servers to enhance data security and accessibility.

Projects

UWPlan

github.com/pl3lee/uwplan

- Designed, engineered, and deployed a **Next.js**-powered degree planning webapp, serving 500+ daily users.
- Implemented a drag-and-drop interface using **dnd kit** and **TailwindCSS**, allowing for easy course planning.
- Integrated secure authentication using **Auth.js** with Google and GitHub **OAuth** providers.
- Implemented efficient data persistence using **PostgreSQL** with **Drizzle ORM** to manage student schedules.

Open Source Contribution: Pingvin Share

github.com/stonith404/pingvin-share

- Fixed critical file-sharing bug for the self hostable file-sharing app, enabling download support for files >4GB.
- Pull request: github.com/stonith404/pingvin-share/pull/709

Skills

Languages: TypeScript, Python, C++ , Go, Bash, SQL, HTML/CSS

Technologies/Frameworks: React.js, Next.js, Node.js, TailwindCSS, shadcn/ui, dnd kit, Auth.js, Jest, React Testing Library, PostgreSQL, Drizzle ORM, Docker, Git, Linux/Unix