

Billy Lee

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Education

University of Waterloo – Honours Bachelor of Mathematics | Dean's Honour (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 using **Docker** and **Traefik** to reduce production defects.
- 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

- Engineered and optimized a **Go REST** API using **Gin**, **Gorm**, and **MySQL** by restructuring database queries and utilizing **Redis**, resulting in a 20% improvement in average query response times.
- 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 improve performance.

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

- Revolutionized product management on the company's e-commerce site by developing a **Python**-based **Selenium** script, reducing the time for product updates from 5 minutes to 30 seconds per product.

Full Stack Developer, University of Waterloo Jan 2023 – Apr 2023

- Developed reusable **React.js** components, reducing code duplication and accelerating UI development.
- Authored comprehensive tests using **Jest** and **React Testing Library**, increasing test coverage by 30%.

Projects

RestJSON github.com/pl3lee/restjson

- Developed a JSON REST API generator with CRUD operations using **React.js** and **Go** for rapid API prototyping.
- Utilized **PostgreSQL** for structured data storage, **AWS S3** for file storage, and **Redis** for caching.
- Engineered dual authentication systems with session cookies and API keys, integrating Google **OAuth** for login.

UWPlan github.com/pl3lee/uwplan

- Designed, engineered, and deployed a **Next.js**-powered degree planning webapp, serving 500+ daily users.
- 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.

Skills

Languages: TypeScript, JavaScript, Go, Python, Bash, SQL, HTML, CSS

Technologies/Frameworks: React.js, Next.js, Node.js, TailwindCSS, shadcn/ui, Auth.js, Jest, React Testing Library, PostgreSQL, Drizzle ORM, Docker, Kubernetes, AWS S3, Redis, Git, Linux/Unix, Gin, Gorm, Chi