

Billy Lee

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Education

Georgia Institute of Technology – Master of Science in Computer Science (GPA: 4.0/4.0)	Jun 2026
University of Waterloo – Honours Bachelor of Mathematics (GPA: 3.9/4.0)	Oct 2024

Experience

Lead Developer , University of Waterloo	Jan 2024 – May 2024
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- 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
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- 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
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- 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
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- 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
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- 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
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- 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, Next.js, Node.js, TailwindCSS, shadcn/ui, dnd kit, Auth.js, Jest, React Testing Library, PostgreSQL, Drizzle ORM, Docker, Git, Linux/Unix