

# Justin Lau

+1 (437)-268-7803 | [jlau@uwaterloo.ca](mailto:jlau@uwaterloo.ca) | [linkedin.com/in/jlau04](https://www.linkedin.com/in/jlau04) | [github.com/justinscitech](https://github.com/justinscitech) | [jlau.tech](https://jlau.tech)

## EDUCATION

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### University of Waterloo

Bachelor of Applied Science (BASc) Computer Engineering

Waterloo, ON

2022 — 2027

## TECHNICAL SKILLS

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**Languages:** JavaScript, Java, Python, HTML/CSS, C#, C/C++

**Frameworks/Libraries:** React, ASP.NET Core, Node.js, Express.js, Material-UI, ChakraUI

**Technology:** Git, Github, Linux, Azure, Google Cloud, Firebase, MySQL, MongoDB, Figma

## EXPERIENCE

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### Software Developer Intern

May 2023 — Aug. 2023

BCS Automation

Belleville, ON

- Designed the backend of HoloShip, a Canadian program that enables remote ship monitoring using virtual reality
- Built queries for **MySQL** databases and hosted them on **Azure** to store processed data from 5300+ sensors
- Implemented Lua plugins to provide utility functions for HTTP requests and automated 3D simulations
- Developed robust **REST APIs** with **CRUD endpoints** using the **ASP.NET Core Web API** framework, enabling JSON data transfer for realtime processing on .NET web servers

### Software Developer Intern

Jun. 2021 — Aug. 2021

HealthSmart Technologies

Toronto, ON

- Developed an **EMR integration** website, providing health data access for patients and doctors
- Built 3D patient visualization pages with **Three.js** and **Blender** for real-time browser rendering
- Converted **Figma** mockups into dynamic **React** webpages, enhancing foot traffic by **40%**

### Game Software Developer

Nov. 2021 — Aug. 2022

Legion Studios

Mississauga, ON

- Developed games for a studio with **12,000 followers**, achieving **100,000 plays** and **1000+** sales
- Improved menu designs, animations, and storyline elements, boosting average daily plays by **30%**
- Optimized **frame rate performance** by **50%** by implementing scalable Lua libraries for game systems

## PROJECTS

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### ReadRight — Dyslexia Reading Aid | *React, Express, Node, ChakraUI, Firebase, GCP, Cohere API*

- Developed a dyslexic aid site with **Cohere's API** so users can train their reading with AI generated paragraphs
- Designed webpages with **React** & visualized statistics using dynamic charts via **Chart.js**
- Implemented **Firebase** for realtime user authentication & added dynamic login messages with **ChakraUI**
- Built **REST endpoints** in **Express** to integrate **Google Cloud's speech-to-text API**, enabling reading accuracy analysis by comparing the user's audio to the original text prompts

### IntelliPaint — AI Art Generator | *React, MongoDB, Express, Node, Tailwind CSS, OpenAI API*

- Developed an AI art generation site using the **OpenAI API** to make high quality art from text prompts
- Created a showcase page with **Tailwind CSS** and **React**, enabling users to search and download art
- Built **REST endpoints** with **Express.js** to connect to a **MongoDB cluster** & access images in Cloudinary

### OtakuBot — Administrative Discord Bot | *Python, Replit, OpenWeatherMap API, Discord API*

- Built a Discord bot to help admins in **25+ servers** manage **500+ members**
- Increased user engagement by **30%** using the Discord API and Repl.it DB to make message-based games
- Implemented the OpenWeatherMap API to provide servers with real-time weather forecasts

## ACCOMPLISHMENTS

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**Lighthouse Hacks Organizer** - Attracted 250+ participants and \$40,000+ in sponsorships

**Best Project Award Winner** - Toronto's largest hackathon, Hack The 6ix 2023

**Ontario Engineering Scholarship** - Professional Engineers of Ontario

**Nortel Networks Scholarship** - University of Waterloo Faculty of ECE