

JACOB FU

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EDUCATION

University of Waterloo

2024 – 2029

Bachelor of Computer Science and Finance – Cumulative GPA: 3.94/4.00

Waterloo, Canada

Awards: Robert Harding Entrance Scholarship (\$5000), President's Scholarship of Distinction (\$2000)

Relevant Coursework: Designing Functional Programs, Financial Markets & Data Analytics, Elem. Algorithm Design & Data Abstraction

TECHNICAL SKILLS

Languages: Python, Java, C, JavaScript, HTML, CSS, Structured Query Language (SQL)

Frameworks & Libraries: React, Node.js, Express.js, Next.js, Axios, Django, Tailwind CSS, MongoDB, SQLite, Pandas, NumPy, Matplotlib

Developer Tools: Git, GitHub, Jupyter Notebook, Vite, Figma, Docker, Postman, Mongoose, Excel, PowerPoint, MS Office

EXPERIENCE

Incoming Software Development Intern

Jan 2025 – Mar 2025

Riipen 🔗

Remote

- Selected for a software development internship through the Advance Ontario program, focusing on designing, building, and delivering technical solutions under the mentorship of industry professionals.

Digital Design Intern

Jun 2024 – Sep 2024

1000 Islands Gananoque Chamber of Commerce 🔗

Gananoque, Canada

- Redesigned website to improve usability and design, increasing **weekly visitors by 65%** and **session duration by 120%**.
- Produced 60+ promotional assets and videos, driving 500+ impressions per video and supporting 3+ successful marketing campaigns.
- Optimized Mailchimp email campaigns by increasing click rates by 60% through A/B testing and refining email design and content.

Information Technology Intern

Sep 2023 – Feb 2024

Weehoey 🔗

Kingston, Canada

- Built a responsive web app using **HTML/CSS** and **JavaScript** to automate employee bonus calculations, used by **100+ employees**.
- Improved Weehoey's server maintenance script by automating the delivery of server analytics to IT using **PowerShell**.
- Managed **30+ client servers'** system and security health by monitoring logs, performing updates, and addressing vulnerabilities.

HTML5 Game Developer

Jun 2019 – Apr 2022

Self-Employed – Hosted on Modd.io 🔗

Kingston, Canada

- Developed a zombie-tag .io game using **Modd.io HTML5 Game Engine**, **HTML/CSS** and **JavaScript**; hosted on Modd.io servers.
- Amassed **200+ avg. concurrent players**, **4.2M+ total plays**, **250K+ unique players**, and gained virality with **570k+ YT views** 📺.
- Generated **\$2,500+ CAD** in revenue by implementing monetization through Patreon subscriptions and in-game micro-transactions.
- Led a team of 3 developers to deliver weekly updates (e.g., new maps, items, events, and bug-fixes) using Agile-inspired workflows.

PROJECTS

MelodyVe 🔗 – JavaScript, Next.js, React, Express.js, MongoDB, Axios – 🔗

Nov 2024 – Jan 2025

- Created a full-stack web app that analyzes users' musical compatibility using Spotify and OpenAI APIs for listening-data and analysis.
- Built REST APIs with **Node.js**, **Express.js**, and **Axios** to efficiently process listening data, ensuring low latency and high scalability.
- Designed a **MongoDB** database architecture optimized for scalability, enabling efficient storage and low-latency retrieval of reports.
- Implemented secure user login with NextAuth.js using OAuth 2.0 standards for persistent user sessions and historical report tracking.

AnonAlyze – JavaScript, Next.js, React, Express.js – 🔗

Nov 2024

- Awarded **Best Security Hack** at **York University's CTRL+HACK+DEL Hackathon**, competing against **60+ teams**.
- Created a full-stack web app using OpenAI API for analysis and Apify API for data to identify users' social media privacy vulnerabilities.
- Built RESTful API endpoints with **Node.js** and **Express.js** to process social media data and generate personalized security insights.

Robo Investment Portfolio Generator – Python, Pandas, NumPy, yfinance, Jupyter Notebook – 🔗

Sep 2024 – Dec 2024

- Developed a **Python** stock-portfolio generator based on financial metrics like beta and volatility to optimize risk-adjusted returns.
- Designed an algorithm to select stocks with low market correlation, maximizing the potential to outperform market benchmarks.
- Cleaned and processed 2+ years of historical stock data using **Pandas** and **NumPy**, handling specific portfolio requirements.

Novel Novels – JavaScript, React, Figma – 🔗

Sep 2024

- Created a web app that turns novels into picture books with images generated by Pollinations.AI, offering a new way to read books.
- Built RESTful API endpoints with **Node.js** to handle book content processing and AI image generation requests to Pollinations.AI.
- Designed the website's user interface using **Figma**, ensuring a visually appealing, user-friendly layout before development.