Marcus Chan

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Experience

Incoming Software Developer - Computational Vision @ *Miovision* *May 2024 - Aug 2024*

Software Developer - Traffic Analytics @ *Miovision* *Sep 2023 - Dec 2023*
- Spearheaded the development of the homepage for the company's main application using **C#, Nest.js, Angular, RxJS and Tailwind SCSS**
- Led the creation of a new tabular component using the **revo-grid** library, demoing the feature to technical stakeholders
- Produced extensive documentation and diagrams for my work, reducing developer onboarding time

R&D Engineer @ *Ansys* *Jan 2023 - Apr 2023*
- Maintained and developed administration and user portals using **C#, Angular and MongoDB**
- Automated the approval and deployment of applications to an e-commerce platform, saving **20+ hours** of manual work

Software Developer @ *Geotab* *May 2022 - August 2022*
- Developed a new API endpoint from the controller layer to the repository layer using **C#** and **PostgreSQL** to evaluate the electrical efficiency of vehicles
- Employed **test driven development** principles to implement the logic for calculating vehicle efficiency over multiple time periods and to handle time zones
- Participated in numerous architecture and design discussions with product and sales to investigate how to reduce memory usage and optimize performance

Projects

Discord Bot Developer Lead @ *UW Computer Science Club* *Sep 2022 - Sep 2023*
- Led a team of **7 developers** to develop a Discord bot, CodeyBot, built on **TypeScript, Node.js, Sapphire, Docker and SQLite** and deployed on a self-hosted cloud platform
- Built a system from **Discord.js** and the **Sapphire** framework using object-oriented programming principles to allow the bot to have both regular and slash commands

Kaggle Profile | *Pandas, Numpy, Matplotlib, Seaborn, PyTorch, Tensorflow, Scikit-Learn, Huggingface*
- Currently a **4x Kaggle Expert** with **3 competition medals**, **550+ notebook upvotes**, **700+ notebook forks** and **160+ dataset upvotes**
- Used extensive **feature engineering** to get a **top 5% solution** for the competition Linking Writing Processes to Writing Quality, discussing my team's solution here
- Utilized a **Deberta V3** and **LightGBM** regressor, alongside features engineered with the **nltk** and **sentence-transformers** libraries, to build a model as part of the Kaggle competition CommonLit: Evaluate Student Summaries

WClasses | *TypeScript, Next.js, React, MongoDB, Selenium, BeautifulSoup*
- Constructed a web application using a **MERN** stack and **Next.js** to display past offerings and student reviews of Waterloo courses
- Utilized web scrapers using **BeautifulSoup** and **Selenium** to fetch and store **6000+ courses** and **100,000+ class offerings** in the database
- Gained over **150+ views** in the first 2 weeks of production

Skills

Languages: JavaScript/TypeScript, SQL (MySQL, PostgreSQL), Python, C/C++, C#/.NET, Java, Bash, HTML, CSS (Sass/SCSS, Tailwind)
Frameworks: Node.js, Express.js, React, Next.js, Nest.js, Angular, RxJS, Pandas, ScikitLearn, NumPy, PyTorch, Tensorflow, Matplotlib, Seaborn, BeautifulSoup, Selenium, MongoDB
Tools: Linux, Google Cloud Platform, Docker, Git, Metabase, Heroku, Tableau, Microsoft Azure

Education

Bachelor of Computer Science (Data Science, Honours, Co-op) @ *University of Waterloo* *Sep 2020 - Apr 2025*
- **CAV: 91 (MAV: 92) | CGPA: 3.9/4.0**
- Recipient of several academic scholarships with a total value of over **CAD$37,000**
- Hobbies: Composing and playing piano covers, rock climbing