Douglas Quan

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EDUCATION

University of Toronto **Sep 2021 – May 2025**
HBSc Computer Science Specialist, Minor in Mathematics *CGPA: 3.53/4.0*

- Dean's List Scholar
- **Relevant Coursework:** Neural Network and Deep Learning, Software Engineering, Database Management, Data Structures, Web Development, Systems Programming, Information Security, Computer Vision, Operating Systems, Computer Networks

SKILLS

Programming Languages: Python, Java, JavaScript/TypeScript, SQL, C, R, HTML/CSS
Frameworks: React.js, Django, Node.js, Next.js, Express, Flask, Tailwind CSS, PostgreSQL, MongoDB
Developer Tools: Docker, Tableau, IBM Cognos, MS Excel, Unix/Linux, Git, RStudio, Figma, Google Colab , Postman, Jira, Azure
Libraries: Pandas, NumPy, Matplotlib, Scikit-learn, TensorFlow, Seaborn, PyTorch, OpenCV, Tkinter
Spoken Languages: Cantonese, English, Mandarin

EXPERIENCE

Canadian Tire Corporation **Sep. 2024 – Current**
Functional Analyst, Model Governance Intern *Toronto, ON*

- Provide functional support to Model Governance operations, coordinating with cross-functional teams to enhance model risk management, stakeholder engagement, and process optimization.

University of Toronto, Department of Economics **Sep. 2023 – Current**
Research Assistant *Toronto, Ontario*

- Classified **300,000+** policy documents with **Cohere Classify**; Constructed mappings between categorization with **Cohere Embed**
- Developed Python scripts using **Pandas** and **Seaborn** to clean, preprocess, visualize, and analyze datasets
- Created interactive **data visualizations** on over **2 million** rows of data using **Python** and **IBM Cognos**.
- Applied **topic modeling** to analyze patent data to identify trends and differences among clusterings

Global Health Core **Apr. 2024 – Aug. 2024**
Web Developer Intern *Toronto, ON*

- Developed a customer support **AI chatbot** using **OpenAI's ChatGPT 3.5 API**, and **Pinecone** for scalable database management

Lillup **Jan. 2024 – May. 2024**
Machine Learning Engineer Intern *Remote*

- Leveraged **LLM (Idefics2-8b)** and **AI web agent (LaVague)** powered by OpenAI GPT-4o and Llama Index to automate job applications filling, reducing manual application time by **80%**

University of Toronto, Department of Linguistics **Sep. 2022 – Sep. 2023**
Research Assistant *Toronto, Ontario*

- Contributed in a Jyutping-to-Chinese transliteration project, focusing on data analysis, sourcing, and cleaning for an **RNN model**, achieved a character error rate (CER) of **0.21**
- Developed an automated **ETL** pipeline to transform **63** interview transcriptions into a transliteration model using **pandas**.

PROJECTS

MeetHomie – *Django, React.js, Javascript, REST API, Tailwind CSS* **Jan. 2024**

- Deployed a **full-stack** scheduling platform designed to streamline the organization of regular one-on-one meetings
- Built backend with **Django**; Developed a **database schema** and **RESTful API** with thorough **Postman testing** and documentation.
- Built frontend with **React.js**, prioritizing responsive and interactive user experience

WeBite – *Flask, React.js, REST API, SQLite, Tailwind CSS* **Jan. 2024**

- Contributed as a **full-stack developer** in a food ordering app project aimed at connecting home cooks with customers
- Employed a **microservices architecture** for the backend with **Flask** and designed a **SQLite**-based database schema
- Adopted **Agile** development practices within the team, participating in sprint planning, daily stand-ups in a group of 7
- Utilized **Jira** as project management tool, efficiently tracking and managing backend tasks, bugs, and features

J2C Translator – *Python, Transformer, Tensorflow, PyTorch, NLP* **Nov. 2023**

- Developed a seq-to-seq Jyutping-to-Chinese-Character translator with the **Transformer Model Architecture**
- Performed **data cleaning** on over **18000** training examples from **three** Cantonese conversational corpora datasets
- Improved validation accuracy by **17%** compared with the baseline model using **RayTune** for hyperparameter tuning
- Designed a weighting mask to solve the homophone ambiguity problem in J2C translation, achieving **94%** test accuracy