Ian Quan

Toronto, ON
437-351-3690 quanian031229@gmail.com linkedin.com/in/ian-quan-ca/ github.com/IanQuan

EDUCATION

University of Toronto **Sep. 2021 – May 2025**
Honors Bachelor of Science, Double Major in Computer Science and Statistics *CGPA: 3.6/4.0*

- Dean's List Scholar 2021-2023
- Mathematical and Computational Sciences Department Honor Roll
- **Relevant Coursework:** Data Structures, Software Development, Database Management, Operating Systems, Systems Programming, Web Development, Computer Networks, Artificial Intelligence, Machine Learning, Neural Network and Deep Learning, Computer Vision, Applied Statistics, Regression Analysis

EXPERIENCE

Full-stack Software Developer **Jan. 2024 – Apr. 2024**
0Barriers Foundation *Toronto, ON*

- Developed A11YLabs Simulation UI, a configurable WCAG violation scanning system, using the **MERN** stack and deployed the application through **AWS S3**.
- Reduced debugging time with API testing using **Postman**, designing test suites to validate **RESTful** endpoints.
- Implemented export functionality for scan results to various file formats and defect tracking tools such as **JIRA**.
- Utilized **Hugging Face APIs** to automate customer service tasks, resulting in a **40%** reduction in response time.
- Implemented **Agile methodology**, referring **JIRA** stores, and improving projects advancement from story tracking to bug resolution.

Data Analyst **Sep. 2023 – Apr. 2024**
University of Toronto, Department of Political Science — Supervisor: Lynette H. Ong *Toronto, ON*

- Conducted **sentiment analysis** on personal diaries to analyze the impact of government policy under Covid lockdown, using dense neural network with **Linear Discriminant Analysis**.
- Performed **logistic regression analysis** using **R** to quantify impact of state repression methods on citizen response.
- Categorized key political-economic themes with precision rate of **85%** using **Large Language Models** and **PyTorch**.

Research Assistant **Nov. 2022 – May 2023**
University of Toronto, Department of Linguistics — Supervisor: Naomi Nagy *Toronto, ON*

- Developed an advanced **RNN model** of Jyutping-to-Chinese Character translation, achieving a character error rate (CER) of **0.21** by introducing a corpus-based imputation method to resolve inconsistency in transcriptions.
- Sourced and processed over **10,000** data entries from **65+** Cantonese interview transcriptions.
- Improved data pre-processing efficiency by **20%** by implementing novel methods with **PyCantoese API** and **NumPy**.
- Reduced downtime by **12%** with **FileZilla** and **ELAN** workflow, leading to more efficient data processing.

PROJECTS

MeetHomie | *Django, React.js, Javascript, REST API, Material UI, Tailwind CSS* **Jan. 2024**

- Developed a **full-stack** scheduling platform using **React.js** for front-end, **Django** and **RESTful API** for back-end, designed to streamline the organization of regular one-on-one meetings.
- Integrated **JWT authentication** to ensure secure token-based user authentication, enhancing platform security.

J2C Translator | *Python, NumPy, PyTorch, Pandas, NLP, Deep Learning, Data Science* **Nov. 2023**

- Created the first Jyutping to Chinese Character translator with a test accuracy of **94%** using **Transformer Model**.
- Performed **data cleaning** and **word embedding** on over **18,000** training examples from Cantonese dialogue 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, increasing **7%** in accuracy.

Student Partner Finder App | *Java, Java Swing, Agile* **Jan. 2022**

- Developed an full-stack application using **Java Swing** for students to find study partners with the matching algorithm.
- Created a **matching learning algorithm** to analyze user's habits and study preferences.
- Processed user-inputted information in the back-end of the app to return a match based on the user's preference.
- Implemented **object-oriented programming** such as **inheritance** to create different user types and databases.

TECHNICAL SKILLS

Languages: C, HTML/CSS, Java, JavaScript, Node.js, Python, R, React.js, SQL(PostgreSQL & SQLite)
Developer Tools: AWS, Azure, CI/CD, Docker, Excel, GitHub, Google Colab, Jupyter, Linux, RStudio, REST API
Frameworks and Libraries: Bootstrap, Django, Firebase, Flask, Java Swing, MongoDB, Matplotlib, Pandas, PyTorch, Redux, Scikit-learn, TensorFlow