James Du

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EDUCATION

University of Toronto September 2019 – June 2024

Bachelor of Applied Science in Computer Engineering

- Double minor in Artificial Intelligence Engineering and Engineering Business

Master of Engineering in Computer Engineering September 2024 – December 2025 (expected)

- Dual emphasis in Data Analytics and Machine Learning and Entrepreneurship
- Research focus on the effects of generative Large Language Models on engineering education

EXPERIENCE

Teaching Assistant December 2024 – Present

University of Toronto Faculty of Applied Science and Engineering | First Year Office

- Taught Python programming tutorials to a class of 600 students in collaboration with course coordinators
- Adapted, designed, and delivered curriculum focusing on algorithm design, data structures, and software engineering concepts relevant to engineering applications

Associate Engineer May 2022 – August 2023

Wattpad | Engineering and Data

- Analyzed and maintained machine learning models and data pipelines to identify and modify deprecated code in recommendations algorithms and tested changes in comparison with existing models
- Researched, tested, and implemented data models for monitoring metrics and recommendations to improve user engagement and maintain consistency in accordance with company growth

PROJECTS

CareBrew September 2024 – December 2024

- Led a team of 4 to research, implement, and present a web-hosted training module to assist customer service employees with empathetic responses in response to workplace conflicts
- Designed a pipeline using generative Large Language Models, text classification, and data retrieval to continuously evaluate customer interactions and generate appropriate empathetic responses

Real-Time Conversation Assistant June 2023 – April 2024

- Collaborated with a team of 3 to research, implement, and present an Android application using Natural Language Processing techniques to address barriers to communication in verbal conversation
- Designed a pipeline using generative Large Language Models, speaker diarisation, speech recognition, and speech synthesis to generate and identify reflective dialogue in real-time verbal conversation

SKILLS AND QUALIFICATIONS

Programming Languages and Tools:

- **Languages:** Python, SQL, C/C++, GO, Java, Kotlin, JavaScript, MATLAB, HTML/CSS
- **Frameworks & Libraries:** Scikit-Learn, PyTorch, TensorFlow, NumPy, pandas, React, Flask
- **Development Tools:** Git, Docker, Continuous Integration/Continuous Deployment (CI/CD)

Machine Learning:

- Training and coding ANNs, CNNs, RNNs and linear classification, regression, unsupervised learning models
- Extensive experience with NLP techniques, including LLMs, sentiment analysis, and text summarization

Cloud Computing and Data Analytics:

- AWS, Google Cloud, Azure for cloud computing and advanced data analytics