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 – June 2026 (expected)

- Dual emphasis in Data Analytics and Machine Learning and Entrepreneurship, Leadership, Innovation & Technology in Engineering (ELITE)

PROFESSIONAL EXPERIENCE

Project Coordinator October 2023 – April 2024

University of Toronto Faculty of Applied Science and Engineering | Office of the Dean

- Collaborated in a team of 4 with the Assistant Dean of Diversity, Inclusion, and Professionalism to develop and coordinate diversity, inclusion, and outreach initiatives with the Faculty of Engineering
- Represented the University of Toronto Engineering community at university-wide events and served as the primary point of contact for the Office of Diversity, Inclusion, and Professionalism

Associate Engineer May 2022 – August 2023

Wattpad | Engineering and Data

- Utilised Natural Language Processing techniques to analyze and maintain machine learning models, and data pipelines to identify and modify deprecated code in recommendations algorithms
- Trained models and modified parameters to adapt to larger datasets to maximize efficiency
- Researched, tested, and implemented data models for monitoring metrics and recommendations to improve user engagement and maintain consistency in accordance with company growth

TEACHING EXPERIENCE

Head Teaching Assistant August 2023 – December 2023

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

- Led a team of 30 TAs in collaboration with course coordinators, and faculty members
- Demonstrated leadership and communication skills by teaching a class of 30 students about engineering ethics, engineering problem solving methodologies, and professional codes of conduct
- Worked directly with course coordinators, Vice Dean, and First Year Office to facilitate course material

Instructor September 2021– April 2022

University of Toronto Faculty of Applied Science and Engineering | Engineering Outreach Office

- Collaborated with a team of 3 to develop a curriculum to facilitate a design project involving the use of software and technology for game development to address the effects of social isolation
- Organized workshops centered around software and technology showcases and game development including game design, coding tutorials, and testing and development methodologies in technology
- Conducted seminars focusing on the workflow of technological development in professional settings and the application of technology in the workplace

Head Academic Mentor May 2020 – August 2021

University of Toronto Faculty of Applied Science and Engineering | Engineering Outreach Office

- Led a team of 10 academic mentors to teach university-level physics online to the incoming class of University of Toronto engineering students
- Demonstrated communication, project management, and leadership skills by scheduling and leading team meetings to discuss student suggestions and feedback from professors and supervisors

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

FinePrint September 2024 – December 2024

- Collaborated with a team of 4 to research, implement, and present a web application to parse legal documents and extract key information to enhance accuracy and efficiency in legal processes
- Designed a pipeline integrating a responsive web application, user authentication, Natural Language Processing techniques, cloud storage, and database management to ensure user accessibility and security

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

Language Identification Model January 2022 – April 2022

- Collaborated with a team of 4 to research, implement, and present a machine learning model to identify spoken languages aiming to promote communication across linguistically diverse communities
- Researched image classification models and applications to audio spectrograms to design a combination model between a Convolutional Neural Network and a fully-connected Artificial Neural Network

COMMUNITY INVOLVEMENT

Social Director, Concertmaster, Violinist September 2019 – Present

University of Toronto Engineering | Skule™ Orchestra

- Led and coordinated within an orchestra of 50 members during weekly rehearsals
- Led and collaborated with an executive team of 10 members in the promotion and participation of the orchestra with other organizations at the University of Toronto and wider communities
- Facilitated connections by coordinating mentorship between new and returning members and as the default intermediary between the executive team and the general members

Coordinator, Communications Director, Violinist September 2021 – Present

University of Toronto Engineering | Iron Strings Quartet

- Led a string quartet of 4 members during weekly rehearsal and handled communications on behalf of the string quartet in preparation for performances
- Performed at events as a representative of the University of Toronto Engineering Music community

SKILLS AND QUALIFICATIONS

Programming Languages

- C, C++, Python, GO, SQL, Git, Java, Kotlin, HTML/CSS, MATLAB

Machine Learning:

- Training and coding ANNs, CNNs, RNNs and linear classification, regression, unsupervised learning models
- NLP techniques: speaker diarization, speech recognition, text analysis, sentiment analysis
- TensorFlow and PyTorch frameworks in deep learning and NumPy and pandas libraries in data analytics

Cloud Computing and Data Analytics:

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