BENJAMIN MAH

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EDUCATION

University of Toronto   **September 2021 – April 2025**

BASc in Machine Intelligence Engineering, Minor in Business

Dean's Honour List for 2021, 2022, and 2023

Relevant Courses: Introduction to Machine Learning, Foundations of Computing, Computer Algorithms and Data Structures, Digital and Computer Systems, Probability and Statistics, Matrix Algebra and Optimization, Ordinary Differential Equations

EXPERIENCE

Data Analyst   **September 2023 – Present**
Cohere   *Toronto, Ontario*

- Auditing machine learning data, revising errors, boosting accuracy by 15% while optimizing data processing.
- Collaborating with cross-functional teams, including data engineers, to ensure data accuracy, completeness, and consistency, achieving a 98% accuracy rate and facilitating LLM model refinement and reliability.

Machine Learning Engineer Intern   **May 2023 – August 2023**
Royal Bank of Canada (RBC)   *Toronto, Ontario*

- Worked within the Generative AI team within RBC's Technology and Operations Innovation Labs.
- Developed a machine learning application using semantic search, parallel processing, and prompting techniques to parse, chunk, embed, match, and respond to user questions on financial libraries in both IR and EQA.
- Used Python, LangChain, Qdrant, Amazon S3, and OpenAI models to boost accuracy and efficiency by 67%.

Autonomous Aircraft Software Engineer   **September 2022 – April 2023**
University of Toronto Aerospace Team   *Toronto, Ontario*

- Responsible for developing and constructing an electric radio-controlled aircraft, an autonomous landing aircraft, and a payload ground rover for the SAE International Aerospace Competition in Texas.
- Programmed a Python script paired with a MavLink and ROS publication-subscription message system to autonomously land an aircraft on a target, improving success rate by 75% upon jettison.
- Developed search algorithms and optimized flying parameters to be used with LiDAR sensors.

Co-Founder, CTO   **March 2022 – April 2023**
FlipDoor   *Toronto, Ontario*

- Co-Founder and CTO of FlipDoor, a startup focused on implementing a mobile application using AI algorithms to improve pairing with landlords and tenants through the UofT Hatchery, a competitive startup incubator.
- Principal software engineer using MERN stack and data wrangling to build Tinder-like machine learning algorithm for the rental market, increasing client satisfaction rate by 55% from conducted surveys.
- Created Figma mockups, conducted market research, and presented business pitches to investors with a projected yearly revenue of $100,000 nationwide and awarded with $10,000 in funding.

PROJECTS

Dubu Chatbot 🔗 | *Python, JavaScript, HTML, CSS*   **June 2023**
- Designed an intuitive chatbot with user-friendly features, including tone customization and PDF uploads.
- Used ChromaDB, ada-002, and GPT-3.5 for precise semantic search and expert response generation.

MoodPalette 🔗 | *Python, JavaScript, HTML, CSS*   **June 2023**
- Created an art therapy application that uses Meta's DeepFace facial recognition system to intelligently determine the user's mood from real-time images, dynamically changing the color palette and art prompt.

Smart Farming Trailer 🔗 | *Python*   **January 2023 - May 2023**
- Led the development of a smart farming trailer for rural Ugandan farmers, incorporating code and circuits to collect and process data, offer real-time farming suggestions, and integrate GPS, sensors, LCD displays, and joystick controls using Raspberry Pi Pico-based systems.

TECHNICAL SKILLS

Languages:	Python, C, Java, JavaScript, SQL, MATLAB, SystemVerilog, RISC-V/Assembly, HTML/CSS
Frameworks:	LangChain, Agile, Flask, React.js
Libraries/Tools:	OpenAI, Gradio, ROS, MAVLink, CAD, Matplotlib, Pandas, Git, NumPy
Interests:	PC-Building, Taekwondo, Music Production, Record Collecting, Studio Ghibli Films