

Michael Ramirez

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EDUCATION

University of Minnesota – Twin Cities

Bachelor of Arts, Computer Science

Minneapolis, MN

Expected May 2024

- 3.583/4.00 GPA, 2020-2021, 2021-2022 Dean's List
- **Relevant Coursework:** Deep Learning, Machine Learning Fundamentals, Intro: Artificial Intelligence, Program Design & Development, Computational Linear Algebra, Statistical Computing, Theory of Statistics, Adv. Programming Principles.
- **Activities:** President's Emerging Scholars, University Club Track Team (Captain), Tau Kappa Epsilon

WORK EXPERIENCE

Marani Health

Jr. Data Scientist

Data Science Intern

Oakdale, MN

May 2024 – Present

May 2023 – May 2024

- Initiated and led the integration of Data Version Control (DVC) at Marani, enhancing medical data management and model tracking, resulting in a 40% reduction in data and model version management time and improved auditability of data analysis.
- Led the development of a Chatbot integration within the Marani app using AWS SageMaker, utilizing the OpenAI GPT-3.5 API fine-tuned with Mayo Clinic data. This initiative delivers precise, real-time responses to pregnancy-related queries, demonstrating Marani's commitment to pioneering maternal healthcare solutions.
- Integrated principles from The American National Standard EC57 research into the firm's deep learning model, achieving +3% improved predictive accuracy for mother and baby heartbeats
- Built and managed a user-friendly platform on AWS, boosting data labeling efficiency by 50%. The platform, adhering to industry security standards, maintained a 99.9% uptime by program managing across 25 cross-functional team members
- Developed tools that boosted data extraction speed by 70%, enabling real-time updates within 5 minutes post-submission, which sharpened Marani's predictive model accuracy to 98% and cut false positives by 30%.

Donaldson Company Inc.

Modeling and Simulations Intern

Bloomington, MN

Feb. 2022 – Aug. 2022

- Produced machine learning algorithms such as KMeans clustering and Deep Neural Networks to discover non-production data from machines in multiple factories to aid in the goal of reducing carbon emissions by 42% by 2030
- Aided in the development of a data pipeline on Snowflake to store large volumes of raw data while also designing machine learning algorithms to automate analysis of filtered data using Tensorflow and SKLearn
- Analyzed databases using SQL, Pandas, and Seaborn to provide statistical information and visual representations of potential power leaks within the business to maintain carbon neutrality

I4Score

Software Engineer

Remote

Jan. 2022 – May 2022

- Executed data extraction with Scrapy for web scraping, employed regex and Pandas for data cleaning, achieving 94% accuracy in isolating key industry-specific keywords and partnerships.
- Developed a PyTorch model using BERT for natural language processing analysis. Successfully enhanced model precision by 30% through fine-tuning hyperparameters and employing LSTM layers for evaluation of business viability based on textual data.

RESEARCH & PROJECTS

Laparoscopic Surgery Research | University of Minnesota | 2023

- Led pioneering research project in robotic-assisted laparoscopic surgery, achieving a 15% increase in model accuracy using novel SegGen algorithm for semantic segmentation.
- Expertly applied deep learning techniques, with a focus on convolutional neural networks (CNNs) and data augmentation.
- Utilized PyTorch and OpenCV for algorithm development, significantly enhancing organ segmentation precision in intra-surgery video analysis such as the pancreas and liver detection by over 12%

SKILLS & INTERESTS

- **Skills:** Python, PyTorch, GPT, R, Java, C++, C, Machine Learning, Data Science, Big Data, Deep Learning, Reinforcement Learning, Computer Vision, NLP, LLM, Keras, Tensorflow, Excel & Google Sheets, GitHub/GitLab/Git, Snowflake, SQL, Linux
- **Interests:** Track & Field; salsa dancing; competitive coding; hiking; anime; gaming/Esports; violin; Kaggle;

PORTFOLIO LINKS

Website: <https://battletaco.github.io/> **GitHub:** <https://github.com/BattleTaco> **Kaggle:** <https://www.kaggle.com/battletaco>