Michael Sun

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EDUCATION

Massachusetts Institute of Technology   Anticipated Graduation: 2026
Bachelor of Science in Computer Science and Mathematics   *Cambridge, MA*

Relevant Coursework: Machine Learning, Algorithms, Fundamentals of Programming, Discrete Math for Computer Science, Probability and Random Variables, Linear Algebra, Multi-Variable Calculus

EXPERIENCE

MIT Media Lab/J.P. Morgan Chase   September 2023 – Present
Software Engineer/Research Intern   *Cambridge, MA*
- Designing a distributed system handling 10,000+ smart contracts and optimized runtime by 10% for banking databases in C++/Python.
- Developing an overall research report to be published at the Singapore Fintech Festival in November 2023.

Google Inc.   September 2023 – Present
Research Intern   *Remote*
- Selected as one of 100 participants nationwide to meet with Google engineers to learn more about the tech industry
- Gained valuable research experience working with Googlers while exploring computing research topics.

Tufts University   June 2023 – August 2023
Research Intern   *Medford, MA*
- Fine-tuned Bidirectional Encoder Representations from Transformers (BERT) with 100,000 + newspaper articles with PyTorch Lightning and Tensorflow, achieved 95% accuracy with 0.87 F1 Score.
- Developed a MySQL database with a Tailwind/NodeJS frontend for labeling purposes used by 50+ volunteers.

MIT EECS   January 2023 – Present
Lab/Teaching Assistant   *Cambridge, MA*
- Debugged and wrote sample solutions for 20+ problem sets for Intro to Python and Intro to Data Science.
- Tutored 600+ students for 300+ hours to solidify students' understanding of course materials

Jane Street   July - August 2022
Unboxed Participant   *New York, NY*
- Selected as one of 30 participants nationwide to strengthen skills in probability, game theory, problem-solving, OCaml programming principles.

PROJECTS

Trading Algorithm | *Quantitative Finance, PineScript, Statistics*
- Developed a trading algorithm in PineScript to perform automated short and long-term Bitcoin trades.
- Developed a combined trading strategy utilizing EMAs, SMAs, RSI, and VWAP, with buy signals based on multiple conditions for accurate entry and exit points.
- Backtested on TradingView generating $750+ weekly.

Spotify Recommender | *PyTorch, MongoDB, Flask, React, Node.js, Tailwind CSS, PostgreSQL, GPT-4*
- Developed a full-stack web application storing user information in PostgreSQL and routing with Flask/MongoDB with React and Node.JS as the frontend
- Implemented neural network to feedback recommended songs along with GPT-4 generated descriptions.

deQrypt | *Python, sci-kit learn, Qiskit (Quantum Computing), Cloud Computing, Flask, HTML/CSS/JS*
- Developed a full-stack web application storing retrieved news articles and financial data in a REST API in the Flask backend and built the frontend with Bootstrap.
- Trained a quantum support-vector-machine with feature-engineering financial data combined with news sentimental analysis.
- Achieved 60% overall accuracy with initial model, 75% with gradient boosting.

SKILLS

Programming Languages: Python, C/C++, SQL (Postgres), JavaScript, HTML/CSS
Machine Learning & Data Science: Pandas, Numpy, Scikit-Learn, Pytorch, TensorFlow
Other: React, Node.js, Flask, MongoDB, Bootstrap, Tailwind CSS, Command Line Tools, Github.