Alexander L. Li

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EDUCATION

Massachusetts Institute of Technology (MIT) — Exp. May 2027
Candidate for BS in Computer Science, Artificial Intelligence (6-4) & Mathematics (18) — *Cambridge, MA*
- Relevant Coursework: Algorithms (6.1210), Mathematics for Computer Science (6.1200), Fundamentals of Programming (6.1010), Web Design (6.962), Linear Algebra (18.06), Probability & Random Variables (18.600)
- Activities: Air Force ROTC, Phi Kappa Theta, NCAA Div. III Men's Fencing, Logarhythms A Capella, StartLabs

Acton-Boxborough Regional High School — Sep 2020 – Jun 2024
GPA: 4.0/4.0 — SAT: 1570/1600 — *Acton, MA*
- Relevant Coursework: Multivariable Calculus, Linear Algebra & Real Analysis I, AP Statistics

EXPERIENCE

Foundation for Resilient Societies — Jan 2025 - Feb 2025
Data Analyst (On-site) — *Cambridge, MA*
- Researched effects of retiring power plants on U.S. Electric Grid capacity with a focus on ISO New England
- Analyzed Electric Grid stability using SERVM forecasting simulation & ad hoc MS SQL queries
- Co-authored internal user guide for SERVM software, received in-person training from Astrapé Consulting

Yoomi Health — Sep 2022 – May 2023
Data Science Intern (Remote) — *Ithaca, NY*
- Automated a web-scraping data collection process for pose images to train Yoomi's A.I. physical therapy model
- Achieved ∼**15% increase in accuracy** & ∼**80% reduction of racial bias** on images with darker skin tone
- Utilized deep learning & computer vision models like YOLOv5 & COCO annotations to map keypoints on both human & digitalized A.I. pose image data stored in AWS, trained over many epochs & tuned hyperparameters
- Contributed to model that won Dr. Pepper's Hail Mary Contest for $23K voted for by Mark Cuban

Massachusetts Institute of Technology — Jun 2022 – Dec 2022
Machine Learning Researcher (Hybrid) — *Cambridge, MA*
- Published **1st-author paper** with Dr. Mikhail Shalaginov at 2023 Intl. Conf. on Machine Learning Applications
- Trained XGBoost, KNN, and SVG multi-variable regression models to predict Property Crime (∼**80% accuracy**)
- Mapped predicted crime hotspots with Geographic Information Systems (ArcGIS Pro)
- Presented to Toronto city officials as guest speaker at Safe City Mississauga's 12th Crime Prevention Conference
- Led leadership workshop for Toronto's mayors & politicians to brief on the issue of racial bias in A.I. models

PROJECTS

ChillDeck DJ - MIT Web Lab Hackathon — Jan 2025
JavaScript, REST API, MongoDB, React, Node, Figma, Render, HTML/CSS
- Won **2nd Place (out of 60 projects)** in MIT's Web Lab Hackathon & received **Best Futuristic UI Design**
- Deployed full-stack web app providing accessible, easy-to-use interface for multiple track audio mixing
- Integrated LSTM-based audio stem separation API (AudioShake), JS audio wave visualization, & tempo matching

ManusMIDI Digital Instrument - HackMIT — Sep 2024
Python, Flask, Docker, JavaScript, HTML, Tailwind CSS
- Developed Docker web app instrument for HackMIT Hackathon, played by moving fingers in front of a webcam
- Implemented comp. vision model from OpenCV library to track keypoints of fingers & distance calculations
- Programmed algorithm for sharps & flats feature, designed core UI/UX for the site using Tailwind CSS

North American Plant Identifier — Dec 2024
Python, TensorFlow, Keras, R, JavaScript, HTML/CSS
- Trained ∼90% accurate Convolutional Neural Network (CNN) to classify images of 151 North American species
- Utilized R script to scrape images from iNaturalist database to compile training & validation datasets
- Programmed full-stack interactive website with UI/UX so users can upload plant images for identification

TECHNICAL SKILLS

Languages: Python, C++, Java, SQL, R, JavaScript, TypeScript, HTML/CSS, Tailwind CSS
Frameworks/Technologies: Git, Docker, AWS, MongoDB, Flask, React, Node, Figma, REST API, TensorFlow, Pandas, Keras, Scikit-Learn, NumPy, PyTorch, Matplotlib, Decision Trees, CNN, ArcGIS, SERVM
Awards: USA Computing Olympiad Gold, 5th in Cryptography @ 2024 Science Olympiad Nationals