Elliot Chen

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EDUCATION

Massachusetts Institute of Technology Cambridge, MA
B.S. in Computer Science and Engineering, Minor in Finance *Expected Graduation: May 2025*
GPA: 4.9/5.0
Relevant Coursework: Algorithms, Machine Learning, Advances in Computer Vision, Discrete Mathematics, Probability and Random Variables, Differential Equations, Linear Algebra, Corporate Finance

EXPERIENCE

DGV Solutions LP Minneapolis, MN
Incoming Quantitative Analyst *June 2024*
- Will be researching optimal put-write strategies with the goal of outperforming the CBOE Put-Write Index.

MIT App Inventor Cambridge, MA
Software Engineer *Aug 2023 - Jan 2024*
- Developed Tensorflow.js extensions that integrate AI and machine learning into the App Inventor, a visual programming environment empowering over 6 million students to create their own apps.
- Built iOS compatible data science and AI toolkits using Swift.

National Taiwan University Center for Artificial Intelligence Taipei, Taiwan
Machine Learning Researcher *May 2023 - Aug 2023*
- Designed a convolutional neural network (CNN) using VGG16 architecture to predict early-onset Parkinson's Disease from brain scans. Utilized PyTorch, OpenCV, and MediaPipe.
- Analyzed CNN results using Grad-CAM heatmaps and confusion matrices.
- Assisted in deploying a mobile app with the model to ten hospitals in the greater Taipei area.

Rohsenow Kendall Heat Transfer Laboratory Cambridge, MA
Undergraduate Researcher *Sep 2021 - May 2022*
- Characterized monovalent selective electrodialysis (MSED) and nanofiltration systems for nitrate recovery in polluted groundwater using ion chromatography, ICP-OES and Total Organic Carbon analytical techniques.
- Used ridge regression to predict experimental carbonate equilibrium and pH changes with 90% accuracy.

PROJECTS

Latent Diffusion Model for Video Super Resolution March 2024
- Designed a model to tackle video super resolution, the problem of reconstructing a high-resolution video from its low-resolution counterpart.
- Utilized a Motion-Guided Latent Diffusion model (MGLD) and a Variational Autoencoder (VAE) for temporally-consistent video generation.
- Presented findings and methodologies to a panel of MIT computer vision professors.

PROGRAMMING

Languages: Python, TypeScript, JavaScript, C, C++, Swift, Java, SQL, Matlab

Libraries & Frameworks: PyTorch, scikit-learn, OpenCV, MediaPipe, NumPy, SciPy, Pandas, Node, Git

SKILLS AND INTERESTS

- Proficiency in Mandarin, Swimming (MIT Varsity Swim & Dive team member), Delta Tau Delta Fraternity, MIT Asian American Association (board member), Alpine Hiking