# Elliot Chen

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## EDUCATION

**Massachusetts Institute of Technology**  Cambridge, MA
M.Eng. in Computer Science and Engineering  *Expected Graduation: May 2026*

**Massachusetts Institute of Technology**  Cambridge, MA
B.S. in Computer Science and Engineering, Minor in Finance  *Expected Graduation: May 2025*
GPA: 4.8/5.0
*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
*Quantitative Analyst*  *June 2024 - Present*
• Researching optimal put-write strategies with the goal of outperforming the CBOE PUT Index.
• Validating trading signals based on the S&P 500 index implied volatilities to enhance main strategic fund.

**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) based on VGG16 architecture to predict early-onset Parkinson's Disease from brain scans. Utilized PyTorch, OpenCV, and MediaPipe.
• 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 machine learning to predict experimental carbonate equilibrium and pH changes with 90% accuracy.

## PROJECTS

**Degradation Methods for Real-World Video Super-Resolution**  *March 2024 – May 2024*
• Synthesized a realistic benchmark dataset for real-world video super-resolution, the problem of reconstructing a high-resolution video from its low-resolution counterpart.
• Researched the performance of state-of-the-art diffusion models on newly created dataset.
• Summarized work in a six-page paper and presented findings to a panel of MIT computer vision professors.

## PROGRAMMING

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

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

## SKILLS AND INTERESTS

• Proficiency in Mandarin (National Collegiate Chinese Honor Society Member), Swimming (MIT Varsity Swim & Dive team member), Delta Tau Delta Fraternity, MIT Asian American Association (board member)