

Education

Columbia University	GPA 4.05/4.0	Aug 2022 – May 2025 (Expected)
● Pursuing Bachelor of Science in Computer Science at Columbia School of Engineering and Applied Sciences (<i>SEAS</i>)		
Dartmouth College	GPA 3.90/4.0	Sept 2021 – June 2022 (Transfer)
● Won <i>The Balanced Man Scholarship</i> by Dartmouth's Sigma Phi Epsilon, chosen from 112 interviewed candidates		
The Meadows School, Las Vegas	GPA 4.0/4.0	Aug 2017 – June 2021

Work Experience

Machine Learning Developer	Mugen Power (Startup)	Aug 2023 – Nov 2023
● Developed machine learning experiment manager and suite of forecasting models to enhance energy price prediction engine		
Machine Learning Intern	BlueHalo	June 2023 – Aug 2023
● Employed Monte Carlo simulations and Kalman filters to quantify sensor uncertainty in flying object tracking system		
● Performed deep learning-based harmonization on multispectral satellite image data for enhanced geospatial processing		
External Developer	MySoccerStudio (Startup)	Apr 2023 – Jun 2023
● Worked with team of contractors to create learning management system product, leading administrative site development		
● Designed user interface with Figma, implemented backend using Django, and deployed site using AWS Elastic Beanstalk		
Data Science Instructor	AI Camp	June 2022 - Aug 2022
● Taught technical concepts in project-based Computer Vision and Natural Language Processing courses to high schoolers		
Product Intern	Percept (Startup)	Nov 2021 - Jan 2022
● Animated digital clothing by implementing neural network approximation of physics simulations		

Relevant Research & Projects

Undergraduate Researcher	Columbia CVLab	Sept 2022 - May 2023
● Collaborated with researchers to create optimizer-based inference generative model that infers 3D objects from only their shadows		
● Developed <i>NeuralInversion</i> , a Python toolkit to approximate the inverse of neural networks using analysis-by-synthesis inference		
Assistant Researcher	Sustainable Health Lab	Sept 2021 - Aug 2022
● Formulated and implemented advanced graph-based models and statistical hypothesis to analyze large-scale medical claims data		
● Published peer-reviewed paper as first author in IEEE: ieeexplore.ieee.org/document/9812655		
● Awarded Scholar Grant for Computational Research by Dartmouth College's Neukom Institute three times		
Relevant Open-Source Projects	github.com/adam-mehdi	June 2020 - May 2023
● <i>AdamCards</i> : Created free desktop application offering AI-powered spaced-repetition flashcard service, enjoyed by a dozen daily users. Designed novel deadline-aware spaced repetition scheduler as a modified Markov Chain. Distributed at adamcards.com		
● <i>Model Uncertainty- and Randomness-based Data Augmentation (MuarAugment)</i> : Created Python package providing GPU-optimized image augmentation search algorithms. Made tutorials and documentation. Achieved 42+ GitHub stars		
● <i>FastTimeFormer</i> : Accelerated state-of-the-art video classifier using linear-complexity approximation of 3D attention mechanism		
● <i>Generative Adversarial ideo-to-Image Uformer</i> : Designed architecture of transformer model for video frame interpolation tasks		
● <i>Image Similarity</i> : Computed similarity in images with explainable model. Explained original approach at adam-mehdi.medium.com		
● <i>Entity Embeddings for Machine Learning</i> : Improved ML models by representing categorical features as neural network embeddings		
● <i>Glioma-Segmentor</i> : Facilitated physical analysis of brain tumor MRIs by implementing segmentation model. Represented 'capstone project for "Deep Learning Specialization" and "AI for Medicine Specialization" course sequences by Coursera		

Relevant Skills

Relevant Coursework	Sept 2021 – Present											
Data Structures	Advanced Programming	Algorithms	UI Design	Computer Vision II	Machine Learning							
Databases	CS Theory	Discrete Math	Graph Theory	Differential Equations	Linear Algebra & Probability							
Relevant Technologies												
Python	PyTorch	Django	TypeScript	React	Svelte	Java	C	Rust	Matlab	Mathematica	SQL	AWS
Relevant Soft Skills												
Clear Communication			Self-Driven		Mission-Oriented			Interdisciplinary Collaboration				