Adam Mehdi

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Education

Dartmouth College: 4.0 GPA (AB in Computer Science & BE in Electrical Engineering)　　2021-Present
The Meadows School High School: 4.0 GPA　　2017-2021

Relevant Work Experience

Machine Learning Engineer: Winter Internship at Percept Inc. (perceptcorporation.com)　　2021-Present
- Develop deep learning product. Creates dynamic avatar showcasing clothing from a single image, for online retail. Retrained and optimized model. Solved problems with graphics texture and clothing reconstruction.

Undergraduate Researcher: Khayal Sustainable Health Lab　　2021-Present
- Enhance structure of healthcare delivery with bio-systems engineering and machine learning. Investigate palliative care specialists' effect on patient trajectory. Create discrete-event models of hospital/patient data.
- Awarded 2022 *Neukom Scholars Grant* for computational research. First freshman to receive since 2015.

Relevant Projects

- V2Iformer: Generative Adversarial Video-to-Image Uformer　　2021
    - Created a new attention-based architecture based on recent papers. Synthesizes 2D images from 3D clips for such tasks as animation interpolation, video frame prediction and multi-image summarization.
- FastTimeSformer: Video Classifier with Accelerated Spacetime Attention　　2021
    - Accelerated the state-of-the-art video classifier, "TimeSformer," in a new implementation. Generalized its architecture for speed using linear-complexity attention approximations for video data.
- MuarAugment: Model Uncertainty- and Randomness-based Data Augmentation　　2021
    - Developed and released Python package. Implements state-of-the-art data augmentation search algorithms in PyTorch. Optimized for accelerated batch-wise GPU computations. Crafted tutorials.
- SimilarityFinder: Computing Similarity in Unstructured Image Data　　2021
    - Programmed a Siamese Neural Network that computes image similarity. Added heatmap that outlines high-activation regions using GradientCAM. Provides interpretable results.
- Entity Embeddings for Machine Learning: A Pipeline and Tutorial　　2021
    - Constructed a pipeline that trains, extracts, and uses the entity embeddings of a neural network as features for categorical variables. Wrote article to make accessible for a wide audience.
- Glioma-Segmentor: MRI Scan Segmentation　　2019-2020
    - Designed model that segments brain tumor MRIs. Facilitates physical analysis of tumor. Capstones *Coursera*'s *AI for Medicine Specialization* (certificate) & *Deep Learning Specialization* (certificate).

Relevant Writing

- Technical Writing: Writer for such *Medium* publications as *Towards Data Science* & *The Startup*　2020-Present
    - Composed technical articles on AI and biotech. Received 300+ "claps." A selection includes:
        - "Teamwork: Radiologists and Deep Learning:" Explores joint human-AI systems.
        - "Addressing Data Shortages:" Explains biomedical use of synthetic data augmentation.
        - "Automatic Data Augmentation:" Overviews algorithmic data augmentation policy search.
        - "Image Similarity: Theory and Code:" Proposes a heuristic for computing similarity in images.
        - "On Trusting the Model:" Formulates the uncertainty behind modeling epistemic uncertainty.
- Paradox & Resolution: Essays on Philosophical Paradoxes & Their Attempted Resolution　　2021
    - Crafted a series of articles proposing epistemological explanations to philosophical problems. Selected:
        - "Knowledge: Limits and Potential:" Investigates unbounded potential of explanatory knowledge.
        - "The Teletransporter:" Inspects and expands famous thought experiment on identity and change.

Leadership & Service

3 Day Startup at the Magnuson Center for Entrepreneurship at Dartmouth, Alumnus　　2021
Dartmouth Entrepreneurship Living Learning Community, Resident　　2021