Faduma Khalif

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EDUCATION

Massachusetts Institute of Technology — Cambridge, MA

Candidate for BSc. in EECS + Brain & Cog. Science and Math departments — June 2022

Design Concentrator

Relevant Coursework:

Introduction to Deep Learning, Python and Data Science, Math for Computer Science, Neural Engineering Workshop, Fundamentals of Programming, Introduction to Psychology, Introduction to Algorithms, Introduction to Neuroscience, Computational Cognitive Science, Introduction to Machine Learning, Machine-Motivated Human Vision, Imagination Computation and Expression, Differential Equations, Matrix Methods in Data Analysis Signal Processing and Machine Learning, Advances in Computer Vision, Probability and Random Variables, Environment and History

EXPERIENCE

Inspirit AI — Cambridge, MA

Artificial Intelligence Instructor — July 2021 - August 2021

- Taught project-based artificial intelligence courses to cohorts of students with varying levels of experience with AI and computer science and math. Led students in developing results for a final project that applied machine learning techniques to medicine.

MIT Computational Psycholinguistics Laboratory — Cambridge, MA

Undergraduate Researcher — June 2020 - August 2020

- Wrote scripts to conduct data analysis and create data visualizations to try to understand the training dynamics of our NLP models
- Updated the transformer codebase to gain correlational insight into the NLP model's training dynamics

Massachusetts General Hospital Psychiatry — Charlestown, MA

Computational Psychiatry Extern — January 2020

- Researched computational and perceptual modeling methods for AD patients who lack cognitive priors necessary for successful perception

MIT-IBM Watson AI Quest for Intelligence — Cambridge, MA

Undergraduate Researcher in Laboratory of Computational Audition — June 2019 - September 2019

- Implemented deep learning methods and Bayesian inference algorithms to model human auditory scene analysis
- Wrote scripts to visualize the attributes of the posterior distributions of the stochastic perception models

Howard Hughes Janelia Research Campus — Ashburn, VA

Research Intern — June 2018 - August 2018

- Worked towards optimizing a convolutional neural network that could recognize and parse the fly song of various closely related fly species.
- Utilized MATLAB to extract and analyze .wav file data.

Academic Projects — Cambridge, MA

Team Member — Jan 2018 - Ongoing

- Built a Virtual Reality dance game alongside teammates via Unity (Fall 2020)
- Developed a Neural Network for Prediction of Like/Dislike Based on Facial Feature Detection with above Human Accuracy (Spring 2020)

AWARDS & PUBLICATIONS

Published 4th Author — 2021

- 4th authorship on submitted paper titled "SongExplorer: A deep learning workflow for discovery and segmentation of animal acoustic communication signals"

Google Hashcode — 2019

- Team Scored in Top 20% Non-Zero Scorers in the U.S

MIT Deep Learning (6.s191) Competition — Cambridge, MA

Machine Learning Team Member — January 2019

- Won 2nd place for a proposal for a novel deep learning application to help diversify current facial recognition methods.

EXTRACURRICULARS

- Course Assistant for EC.794, Technologies for mental health
- Course Staff for 6.804, Computational Cog Sci, a Graduate level Computer Science and AI course
- Learning Assistant for 6.00, introductory computer science course
- MIT Art Scholar
- MIT Machine Intelligence Community Board Member

- Inaugural MIT Design Week Committee Member

SKILLS

- **Programming Languages**: Python, WebPPL, HTML, Wolfram
- **Frameworks & Tools:** Pytorch, Tensorflow, GPUs, Unity