Cyrus Asgari

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Education

Harvard University **May 2024**
S.M. in Computational Science & Engineering. GPA: 4.0/4.0 Cambridge, MA
Relevant Coursework: Scientific Computing & Numerical Methods, Systems Development, Stochastic Optimization, High Performance Computing, MLOps, Advanced Data Science

Massachusetts Institute of Technology **May 2024**
Cross Enrolled Graduate Student. Computer Vision & Sensorimotor Learning. GPA: 5.0/5.0 Cambridge, MA

Harvard University **May 2024**
A.B. in Applied Mathematics & Computer Science. Honors. GPA: 3.95/4.0 Cambridge, MA
Secondary in Economics. John Harvard Scholar - Top 5% of Class

Technical Skills

Languages: Python, C/C++, Java, SQL, HTML/CSS
Developer Tools/Platforms: Git, Unix, AWS, GCP
Frameworks/Libraries: Pandas, NumPy, Sympy, Matplotlib, PyTorch, Scikit-learn, Tensorflow, Eigen

Experience

Harvard CSE Lab **September 2023 – May 2024**
Machine Learning Researcher Cambridge, MA
- Researching applications of Bayesian uncertainty quantification and ensemble methods to reinforcement learning
- Developed novel policy gradient methods incorporating uncertainty for improved sample efficiency and robustness

LinkedIn **May 2023 – August 2023**
Machine Learning Engineer Intern Sunnyvale, CA
- Developed graph neural network for modeling user-ad interactions to create more relevant ad recommendations
- Constructed novel graph including user interactions within feed page to model member-company affinity, resulting in increase of 2% AUC over baseline
- Designed DAG pipeline for collecting relevant data from Hadoop clusters using Apache Spark

Biospectal **March 2023 – May 2023**
Data Science Intern Cambridge, MA
- Developed internal tools to track user metrics and monitor patient health via mobile blood pressure tracking
- Led integration of Firebase user data with visualization platforms to create historical view of patient recordings

Amazon **June 2022 – August 2022**
Software Development Engineer Intern Seattle, WA
- Developed skinnable video player service to be deployed to over 100 million users across Twitch, Freevee, & Amazon Music
- Standardized adaptive bitrate streaming functionality to expand video playback across Amazon platforms
- Implemented review microservice using AWS Lambda, nonrelational database, and rest-API

Leadership

Harvard Undergraduate Robotics **September 2020 – Present**
President Cambridge, MA
- Orchestrated onboarding for new members and managed logistics across 3 teams w/ over 50 members (2x membership)
- Programmed Kalman filter and graphical user interface to control robotic sock used in stroke rehabilitation with accessibility options for patients, displaying project at MIT IEEE research conference

Harvard Applied Math Department **September 2022 – Present**
Teaching Fellow & Advisor Cambridge, MA
- Teaching fellow for Applied Linear Algebra & Big Data course, w/material including PCA, SVD, neural networks, etc.
- Teaching fellow for Nonlinear Dynamical Systems course, w/material including ODEs, stability, bifurcations, chaos, etc.

Projects

Parallelized Movie Recommendation System | C++ **May 2023**
- Parallelized alternating least squares algorithm for generating movie recommendations utilizing OpenMP
- Utilized AVX2 Intel intrinsics for SIMD vectorization to achieve >200x speedup compared to baseline

Automatic Differentiation Library | Python **November 2022**
- Implemented both forward mode and reverse mode automatic differentiation for efficient and accurate differentiation of complex multidimensional functions
- Developed topological sorting algorithm to maximize evaluation efficiency and enable computational graph visualization