

EAMON NIKNAFS

en@bu.edu · eamonniknafs.com · github.com/eamonniknafs

EDUCATION

Boston University, BA Computer Science

Boston, MA

Relevant Coursework: Artificial Intelligence, Machine Learning, Software Engineering, Cybersecurity, Network Security, Operating Systems, Functional Programming, Foundations of Data Science, Algorithms

May 2023

WORK EXPERIENCE

Machine Learning Team Lead

Boston, MA

BU Spark!

September 2022 - Present

- Researched ideal model architectures and provided feedback to five teams of engineers building out deliverables
- Led project progress and best practices by providing 30 engineers with technical insight and assistance
- Accelerated effective communication between five teams and clients, ensuring meeting client expectations

Machine Learning Intern

Boston, MA (Remote)

BU Spark!

February - August 2022

- Automated species identification and record digitization for 1000s of plant specimens with a ViT neural network plant classifier—project developed for the Harvard Herbarium and receiving NSF funding
- Classified records by reading handwritten/typed text using a transformer based optical character recognition/named entity recognition pipeline which tracked four features including species, dates, geography, and collector names
- Multithreaded each part of pipeline, improving running time by a factor of approximately 60x

Software Engineering Intern

Westlake, TX (Remote)

Fidelity Investments

June - August 2021

- Trained recommender system using k-means model on interaction data to recommend other products across 10 apps
- Exposed API to leverage models, deployed app using Docker, and provided model use for 2 teams to continue project
- Authored frontend code to improve Fidelity Research Experience's UX, now in production on 3 pages

Software Engineering Intern

Irvine, CA

Accurate Background

June - December 2019

- Engineered 10 page full-stack website with authentication, accounts, profiles on React.JS, Spring Boot, MongoDB
- Developed court record scraping workflow for 8 websites, laying groundwork to save employee time

PROJECTS

Masked Autoencoders are Continuous Learners Against Adversarial Attacks *Python, TensorFlow*

- In-progress research paper on continuous learning of robustness to adversarial attacks in masked autoencoders

ML Herbarium *Python, PyTorch, TrOCR, NumPy*

- ML pipeline using transformers to automate plant identification and data collection for millions of specimens

Meta AI Video Similarity Challenge *Python, PyTorch, pandas, NumPy*

- Scored 8th place of 212 participants in Meta AI's Video Similarity Challenge in the more difficult "matching" track

The Autocast Competition *Python, PyTorch, pandas, NumPy*

- In-progress deep learning project to forecast future world events using a dataset of 1000s of news articles

Freedom For Immigrants Project: Intelligent Query Builder *Python, NLTK, SpaCy, pandas, NumPy*

- NLP pipeline to convert natural language into MongoDB queries to optimize nonprofit organization's data flow

EPIK Project: Sentiment Analysis *Python, NLTK, scikit-learn, textblob, pandas, NumPy, NRCLEX, Matplotlib*

- Sentiment analysis pipeline to classify thousands of interactions between parties for anti-human trafficking nonprofit

SKILLS

Programming Languages: Python, C, C++, Java, JavaScript, HTML/CSS, OCaml, SQL, Bash

Tools: PyTorch, TensorFlow, scikit-learn, React, Flask, MySQL, MongoDB, Unix, Docker, Kubernetes, Microservices, Firebase, GCP, AWS, Azure, CI/CD, Git

ML Concepts: Transformers, Reinforcement Learning, CNNs, RNNs/LSTMs, Graph Theory, K-Means, Decision Trees/Random Forests, Few-Shot Learning, Active Learning, Embeddings/Tokenization, Cosine Similarity, Optimization, Regularization