Andrew Koulogeorge

Northbrook, IL • 847-204-3005 • Personal Website • andrewkoulogeorge@gmail.com • Github • linkedin

Education

Carnegie Mellon University, Pittsburgh, Pennsylvania **August 2024 - December 2025**
- **Masters of Science**: Computer Science
- **Coursework in Progress**: Machine Learning (PhD), Mathematical Statistics, Introduction to Computer Systems

Dartmouth College, Hanover, NH **September 2020 - June 2024**
- **Bachelor of Arts**: Mathematics & Computer Science
- **Grade**: 3.98; Summa Cum Laude; Phi Beta Kappa
- **Relevant Coursework**: Randomized Algorithms (Grad), Deep Learning Robustness, Machine Learning, Artificial Intelligence,, Computer Architecture, Object Oriented Programming, Data Mining, Linear Algebra, Real Analysis (Honors), Partial Differential Equations (Grad), Abstract Algebra (Honors), Econometrics

Professional Experience

Harpin AI, Bend, OR **June 2024 – August 2024**
Applied Scientist Intern
- Researched the application of text embedding models to enhance Harpin's core profile similarity model. Trained an XGBoost classifier on over 180k record pairs, achieving a 1.5% improvement in model F1 score
- Pioneered the development of a Siamese Neural Network-based profile similarity model to enable Harpin to bypass expert feature creation and frictionlessly target customer use cases outside of identity data

Minds, Machines, and Society Lab, Hanover, NH **March 2023 – June 2024**
Large Language Model Researcher: Advised by Soroush Vosoughi
- Proposed a novel framework, Faithful Alignment (FA), to improve the interpretability of Prototypical LLMs by ensuring faithful model explanations. Demonstrated FA maintains model performance across GLUE benchmark
- Applied prompt engineering to Chat-GPT to construct The ImplicitStereo Dataset, a novel dataset used to investigate stereotype representation and detection in pre-trained LLMs

Dartmouth Computer Science Department, Hanover, NH **January 2024 – June 2024**
Undergraduate Teaching Assistant
- Assisted in the instruction of COSC 74: Machine Learning and COSC 78: Deep Learning by providing one-on-one tutoring and bi-weekly office hours to review core conceptual concepts
- Graded assignments, projections and exams as well as developed supplemental course teaching material

Publications

Is Faithfulness in Prototypical Language Models a Mirage?
A. Koulogeorge, S. Xie, S. Hassanpour, S. Vosoughi: *Submitted to 2024 EMNLP*

Deciphering Stereotypes in Pre-Trained Language Models
W. Ma, H. Scheible, B. Wang, G. Veeramachaneni, P. Chowdhary, A. Sun, **A. Koulogeorge**, L. Wang, Diyi Yang, S. Vosoughi: *Accepted to 2023 EMNLP (paper)*

Skills

Languages: Python, Java, C
Frameworks & Libraries: PyTorch, Hugging Face, Scikit-learn, XGBoost, Pandas, Numpy, Apache Spark, Git
Amazon Web Services: SageMaker, S3, Bedrock

Select Projects

Transformer from Scratch: Implemented decoder only Transformer architecture from scratch in PyTorch; Trained model to imitate Harry Potter text

Stanford CS234: Reinforcement Learning: Self-studied Stanford CS234; Implemented Value Iteration for finite state Markov Decision Process, Deep Q-Network for Atari, and Proximal Policy Optimization

Traditional AI: Implemented A* Search and The Viterbi Algorithm for Blind Robot Planning, Minimax + Alpha-Beta Pruning for Chess AI, WalkSAT for Sudoko, Probabilistic Roadmap for Robotic Arm Planning