Andrew Koulogeorge

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

Education

Carnegie Mellon University Pittsburgh, PA | December 2025
- **Masters of Science**: Computer Science GPA: 4.00/4.00
- **Coursework**: Machine Learning (PhD), Convex Optimization, Mathematical Statistics, Distributed Systems, Machine Learning in Practice (Audit)

Dartmouth College Hanover, NH | June 2024
- **Bachelor of Arts**: Major in Mathematics, Minor in Computer Science GPA: 3.98/4.00
- **Awards:** Summa Cum Laude, Phi Beta Kappa
- **Select Coursework**: Randomized Algorithms, Real Analysis, Partial Differential Equations

Experience

AppLovin Palo Alto, CA | May 2025 – Present
Research Scientist Intern
- Ad Recommendation for AXON

Forge Lab Pittsburgh, PA | March 2025 – Present
Machine Learning Researcher: Advised by Virginia Smith
- Efficient Inference for Vision Language Models via leveraging attention sinks in Self-Attention Mechanism

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 100k 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
Machine Learning Researcher: Advised by Soroush Vosoughi
- Identified fundamental flaws in interpretable Large Language Model architectures which resulted in unfaithful model explanations; proposed the *Faithful Alignment* framework to restore faithful model explanations
- Implemented the *Faithful Alignment* framework in PyTorch and demonstrated that it maintains strong model performance across various Natural Language Processing tasks

Publications

A. Koulogeorge, S. Xie, S. Hassanpour, S. Vosoughi
Bridging the Faithfulness Gap in Prototypical Models. *Insights Workshop; NAACL 2025 (Oral Presentation)*

W. Ma, H. Scheible, B. Wang, G. Veeramachaneni, P. Chowdhary, A. Sun, A. Koulogeorge, L. Wang, S. Vosoughi.
Deciphering Stereotypes in Pre-Trained Language Models. *2023 EMNLP*

Select Projects

Needle Code | Python, Cuda | December 2024 – January 2025
- Built PyTorch inspired Deep Learning framework that supports AutoDiff, common Neural Network layers, Optimizers and Datasets/Data-loaders. Implemented backend operations in cuda for GPU support

Distributed Systems Code | C, Java | January 2025 – April 2025
- Implemented Remote Procedure Calls for Linux file operations, Distributed File-Caching Proxy with Session Semantics, Dynamically Scalable Web Service, and Two-Phase Commit

Skills

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