# ANDREW KOULOGEORGE

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## EDUCATION

**Carnegie Mellon University** <span style="float:right">Pittsburgh, PA | December 2025</span>
- **Masters of Science**: Computer Science
- **Coursework in Progress**: Machine Learning (PhD), Mathematical Statistics, Introduction to Computer Systems

**Dartmouth College** <span style="float:right">Hanover, NH | June 2024</span>
- **Bachelor of Arts**: Major in Mathematics, Minor in Computer Science — GPA: 3.98/4.00
- **Awards:** Summa Cum Laude, Phi Beta Kappa
- **Relevant Coursework**: Randomized Algorithms (Grad), Deep Learning Robustness, Machine Learning, Artificial Intelligence, Object Oriented Programming, Real Analysis (Honors), Linear Algebra, Econometrics

## PROFESSIONAL EXPERIENCE

**Harpin AI** <span style="float:right">Bend, OR | June 2024 – August 2024</span>
*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** <span style="float:right">Hanover, NH | March 2023 – June 2024</span>
*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** <span style="float:right">Hanover, NH | January 2024 – June 2024</span>
*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 theory, PyTorch, Scikit-learn and Numpy concepts

## PUBLICATIONS

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

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**. Accepted to 2023 EMNLP (paper)

## SKILLS

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

## SELECT PROJECTS

**Reinforcement Learning** <span style="float:right">Code | Stanford | January 2024 – March 2024</span>
- Self-studied Stanford CS234; implemented Value Iteration for finite state Markov Decision Process, Deep Mind's Deep Q-Network to play Atari, and Proximal Policy Optimization for Cart-pole & Pendulum simulation

**Transformer from Scratch** <span style="float:right">Code | Personal Project | December 2023</span>
- Implemented decoder only Transformer architecture inspired by seminal "Attention is All You Need" paper from scratch in PyTorch; trained model on GPU hardware to generate Harry Potter inspired text

**Traditional AI** <span style="float:right">Code | Dartmouth | September 2023 – November 2023</span>
- Implemented A* Search and the Viterbi Algorithm for Blind Robot Planning, Minimax + Alpha-Beta Pruning for Chess AI, WalkSAT for Sudoko solver, and Probabilistic Roadmap for Robotic Arm Planning