Jacob Fein-Ashley

feinashl@usc.edu ⋄ Portfolio ⋄ LinkedIn ⋄ Google Scholar

Professional Experience

Data Science Lab, USC   Los Angeles, CA
Graduate Research Assistant   May 2023 – Present

- Conduct research in machine learning.
- Innovate novel and efficient algorithms for deep learning.
- Contribute to academic publications and presentations at international conferences.

Education

University of Southern California   Los Angeles, CA
Ph.D. in Electrical Engineering   Jan 2025 – May 2028

- Research Focus: Machine Learning.
- Relevant Coursework: Probability for Electrical Engineers, Linear Algebra for Electrical Engineers, Topics in Stochastic Processes, Deep Learning, Computational Intelligence and Neural Learning.

University of Southern California   Los Angeles, CA
M.S. in Electrical Engineering   Aug 2023 – Dec 2024

- Focused on coursework and projects in machine learning and data science.

Colorado School of Mines   Golden, CO
B.S. in Computer Science   Aug 2020 – Dec 2022

- GPA: 3.80/4.00.
- Relevant Coursework: Machine Learning, Data Structures, Algorithms, Linear Algebra, Probability Theory, Mathematical Statistics, Operating Systems, Calculus I–III, Differential Equations, Discrete Mathematics, Software Engineering, Database Management, Multivariate Analysis, Advanced Machine Learning.

Technical Skills

- **Languages:** Julia, Python, C++, Java, SQL.
- **Technologies:** PyTorch, Scikit-learn, NumPy, Pandas, Matplotlib, Git, Docker.
- **Operating Systems:** Linux, Windows.

Awards

Palantir C-MAPP Scholar
                                                                                                                    2021 – 2022

Publications

- **The FFT Strikes Again: An Efficient Alternative to Self-Attention**. *arXiv*, 2025. arXiv:2502.18394.
- **Contextual Feedback Loops: Amplifying Deep Reasoning With Iterative Top-Down Feedback**. *arXiv*, 2025. arXiv:2412.17737.
- **Linear Diffusion Networks**. *arXiv*, 2025. arXiv:2502.12381.
- **ClusterViG**. *arXiv*, 2025. arXiv:2501.10640.