

Aryaman Reddi

PhD Researcher in Reinforcement Learning, Large Language Models, & Applied Mathematics
[Portfolio](#) | [LinkedIn](#) | aryamanreddi@gmail.com | +4915736224825 | German Permanent Resident

EDUCATION

PhD in Computer Science 2022 - Present

University of Cambridge (UK), Technical University of Darmstadt (Germany)

- Developing scalable, state-of-the-art deep learning algorithms and benchmarks by collaborating across two world-leading research institutions
- Achieved **15% performance boost** in robotics and reinforcement learning benchmarks using deep learning, applied calculus, and game theory
- Developed **12 novel metrics** to analyze transformer-based large language model representations to measure emergent reasoning capabilities
- Analyzing **billions of datapoints** by building GPU-accelerated deep learning pipelines with High-Performance Computing clusters using Python, JAX, PyTorch, & Numpy
- Published at [ICLR](#) (Spotlight), [CoRL](#), [NLPJ](#), [EWRL](#)

M.Eng and B.A. Information and Computer Engineering 2017 - 2021

University of Cambridge (UK)

- Attained Distinction (4.0 GPA equivalent), top 10%, **Cambridge David Thompson Award**
- Key modules: Deep learning, Probability and statistics, Calculus, Linear algebra

WORK EXPERIENCE

Machine Learning Research Engineer: Arm Holdings, UK 2021 - 2022

- Achieved a **20% boost** in GPU inference throughput by analyzing TensorFlow operator efficiency using deep learning clustering and pruning techniques
- Decreased GPU latency by **15%** by developing an [open-source neural network optimization toolkit](#) used by the Arm developer community using Python and TensorFlow
- Enhanced IoT device performance by **12%** by benchmarking over **30** silicon-on-chip devices using Python, Jenkins CI, SQL, & Kubernetes

Machine Learning Research Intern: Arm Holdings, UK Summer 2019, 2020

- Achieved a **15%** increase in GPU verification coverage by developing a statistical testing framework for clustering techniques using TensorFlow and Python
- Decreased latency in CPUs by **11%** using time series modelling in scikit-learn

AWARDS, SKILLS, AND LEADERSHIP

Awards and Leadership

- [Spotlight Award](#) at the 12th International Conference on Learning Representations (ICLR)
- Received the **Cambridge David Thompson Award** for top 10% of Engineering graduates
- Co-organiser of the [International Workshop of Intelligent Autonomous Learning Systems](#)
- Head Teaching Assistant for Reinforcement Learning course at TU Darmstadt, Germany
- Ranked **1st nationally** in Cambridge A-Levels
- National Olympiad Awards – Maths, Physics (**Silver**), Chemistry, Biology (**Bronze**)
- **1st Place** at Cambridge MLH Hackathon 2021

Projects

- [Explored geometric approaches to the Collatz conjecture](#)
- Contributed **1200** topologically cyclic chess positions using graph theory

Skills

- **Languages:** Python (**10 years**), C++, Bash, Matlab (**6 years**)
- **Frameworks:** PyTorch, TensorFlow, JAX, Flax, scikit-learn, Pandas, W&B, Hydra, Jenkins, Linux, Git, AWS, Google Cloud, Conda, Matplotlib, MS Office Suite (**6 years**)
- **ML:** RL, LLMs, GNNs, transformers, HPC (Slurm/Docker), probabilistic modelling (**6 years**)