Animesh Jha

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Academics

Stanford University	**Sept 2024 - June 2026**
MS in Computer Science - AI Specialization	3.97/4.0
Indian Institute of Technology, Kharagpur	**2019 - 2023**
Computer Science and Engineering (B.Tech)	9.77/10.0

Internship and Research Experience

Cartesia AI   **June 2025 – September 2025**
Member Technical Staff Intern - Serving Team   *San Francisco*
- Improved the robustness of core serving services and reduced latency and expanded support for Speech-to-Text offering

Stanford Trustworthy AI Research Lab   **August 2024 – Present**
Graduate Research Assistant - With Prof. Sanmi Koyejo   *Stanford*
- Identifying metrics (memorization, MIA accuracy, etc) which allow usage of training history for better machine unlearning
- Analysing different post-processing and differential privacy mechanisms to get efficient and certified (ϵ, δ) unlearning

Rubrik, Inc.   **June 2023 – August 2024**
Software Engineer – Core Infra (Platform) Team   *Bangalore*
- Decoupled customer URL subdomain and internal account name across SaaS and physical products to support URL renaming
- Reduced upgrade time by 45% and saved 120 developer hours daily, through safe parallelization of orchestration steps
- Improved support for production clones with custom configurations in the context of end to end tests and system tests
- Led hackathon project to develop a managed solution for sensitive data analysis through Intel SGX hardware enclaves

Secure and Byzantine Resilient Non-Convex Optimisation   **December 2021 – October 2023**
With Prof. Simon Du   *University of Washington*
- Designed and analysed Byzantine Fault Tolerant algorithms for efficient distributed training with non convex loss functions
- Established lower bounds on the number of iterations for finding ϵ approximate critical points in the presence of adversaries
- Analysing how such algorithms can be used for Federated Learning with secure aggregation, using Zero Knowledge Proofs

Rubrik, Inc.   **May 2022 – July 2022**
Software Engineering Intern – Platform Team   *Bangalore*
- Migrated datapipelines handling **10+**TB per day from AWS EMR to Kubernetes using the Spark Operator for Kubernetes
- Increased number of bundles processed per hour by **35%** reduced the EC2 compute cost by **40%** and overall cost by **67%**

Communication Efficient Distributed Learning   **May 2021 – August 2021**
With Prof. Jihong Park   *Deakin University*
- Improved communication efficiency of Federated Learning by reducing model sizes via sparsification using their lottery tickets
- Used supermasks to prune server-side models, reducing the model size while maintaining accuracy and client-side data privacy

Publications

Certified Unlearning for Neural Networks [PDF] [Code]	**ICML 2025**
Local NMPC on Global Optimised Path for Autonomous Racing [PDF] [Code]	**OCAR Workshop ICRA 2021**
[Re]: Differentiable Spatial Planning using Transformers [PDF] [Code]	**MLRC 2021 Fall**
[Re]: Contrastive Learning of Socially-aware Motion Representations: [PDF] [Code]	**MLRC 2021 Fall**

Projects

Sparse Tensor Compilation for Distributed Databses | Prof. Fredrik Kjolstad   **Spring 2025**
- Represented relational algebra as tensor algebra, leveraged distributed tensor compilation to enable efficient query execution
- Allows for optimized query execution across heterogeneous systems, including CPU-GPU setups and geo-restricted settings

RL for Data Selection | Deep RL (CS234) Project | [Code]   **Spring 2025**
- Used proxy models and validation data to approximate rewards for PPO and DQN to identify high-quality training subsets
- Achieved matching or higher accuracy than full-dataset training on multiple tasks, while selecting only 5% of the original data

Resource Efficient Domain Specific QA | Inter IIT Tech Meet 11 – Silver (Team Captain) | [Report] | [Code]   **Feb 2023**
- Combined sentence level context retrieval with an ensemble of noisy tuned LLMs with contrastive loss to extract answer span
- Achieved low latency via ONNX, Caching and Quantization. Experimented with MAML for efficient domain adaptation

Achievements

- Secured All India Rank **60** in the **Kishore Vaigyanik Protsahan Yojna** (SA, 2017) conducted by the Government of India
- Awarded the **National Talent Search Examination Scholarship** (2017) by the Government of India.
- **National Finalist** (amongst the top 5 teams out of 25000+ participants) at the **Uber Hacktag 1.0 2021**.
- ACM ICPC Regionalist: Qualified for and placed **44th** out of 7000+ teams at the Gwalior Pune ICPC Regionals 2020.

Technical Skills

- **Languages:** C++, Python, Go, C, LaTeX, Scala, Verilog
- **Libraries:** OpenMP, Eigen, Selenium, BeautifulSoup, Pandas, Flask, PyTorch, Scikit-Learn, HuggingFace, Numpy, Jax
- **Tools:** Git, ROS, Terraform, Bazel, Docker, Kubernetes, AWS, Azure, Apache Spark, Snowflake, NATS, Blender