

Rohit Dwivedula

rohitdwivedula@utexas.edu | Austin, TX

RESEARCH INTERESTS

ML for Systems, Robotics, AI Infrastructure, Operating Systems

EDUCATION

University of Texas at Austin

2023 – present

PhD Computer Science. Advised by [Aditya Akella](#) and [Daehyeok Kim](#).

Austin, TX

- Amazon AI PhD Fellowship (2025-26)

Birla Institute of Technology and Science (BITS), Pilani

2017 – 2021

Bachelor's in Computer Science & Minor in Physics. GPA: 9.10/10 (Distinction)

Hyderabad, India

WORK EXPERIENCE

AMD Research

May 2024 – Aug 2024

R&D Intern

Austin, TX

- Developed an analytical simulator to model network usage (e.g., latency, bandwidth) of modern deep learning workloads such as LLMs and state space models on large-scale AMD GPU clusters.
- Enabled [Chakra](#) trace collection on AMD hardware, allowing for cross-platform compatibility (e.g. with Nvidia).
- Designed algorithms to enable efficient multi-tenant training and inference of LoRA-finetuned models.

Microsoft Research

Aug 2021 – Aug 2023

Research Fellow

Bengaluru, India

- Worked in the AI Infrastructure team on making deep neural network (DNN) training and inference more efficient.
- Analyzed GPU usage patterns of hundreds of internal DNN jobs, pinpointing models underutilizing GPUs.
- Other tasks: LM distillation; LM benchmarking; debug failures on-call during LLM (50B+ params) training; experimenting with modifications to existing neural architectures; optimizing mixture-of-expert training

Microsoft Research

Jan 2021 – Jul 2021

Research Intern

Bengaluru, India

- Designed and built *TrustRate*, a privacy-preserving polling system using multiple cryptographic primitives. [\[paper\]](#)
- Implemented the cryptographic primitives in C++, built an E2E prototype, and benchmarked it on a testbed of 2200 nodes on Azure spread across three WAN regions. Achieved a throughput of > 4.5 million votes per day.

SELECTED PUBLICATIONS

- **Rohit Dwivedula**, Sadanand Modak, Aditya Akella, Joydeep Biswas, Daehyeok Kim, Christopher J. Rossbach. [ConfigBot: Adaptive Resource Allocation for Robot Applications in Dynamic Environments](#). IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2025).
- **Rohit Dwivedula**, Divyanshu Saxena, Aditya Akella, Swarat Chaudhuri, Daehyeok Kim. [PolicySmith: Man-Made Heuristics Are Dead. Long Live Code Generators!](#) Hot Topics in Networks (HotNets) 2025.
- Divyanshu Saxena, Jiayi Chen, Sujay Yadalam, Yeonju Ro, **Rohit Dwivedula**, Eric H Campbell, Aditya Akella, Christopher J Rossbach, Michael Swift. [How I learned to stop worrying and love learned OS policies](#). Proceedings of the 2025 Workshop on Hot Topics in Operating Systems (HotOS 2025).
- **Rohit Dwivedula**, Sriram Sridhar, Sambhav Satija, Muthian Sivathanu, Nishanth Chandran, Divya Gupta, Satya Lokam. [TrustRate: A Decentralized Platform for Hijack-Resistant Anonymous Reviews](#). Poster at The 24th Privacy Enhancing Technologies Symposium (2024).

- Chenxi Yang, Divyanshu Saxena, **Rohit Dwivedula**, Kshiteej Mahajan, Swarat Chaudhuri, Aditya Akella. [C3: Learning Congestion Controllers with Formal Certificates](#). European Conference on Computer Systems (EuroSys) 2026.
- Divyanshu Saxena, Nihal Sharma, Donghyun Kim, **Rohit Dwivedula**, Jiayi Chen, Chenxi Yang, Sriram Ravula, Zichao Hu, Aditya Akella, Sebastian Angel, Joydeep Biswas, Swarat Chaudhuri, Isil Dillig, Alex Dimakis, P. Brighten Godfrey, Daehyeok Kim, Chris Rossbach, Gang Wang. [On a Foundation Model for Operating Systems](#). Machine Learning for Systems Workshop at 37th NeurIPS Conference (2023).

OTHER PUBLICATIONS

- Haoyu Li, Yuchen Xu, Jiayi Chen, **Rohit Dwivedula**, Wenfei Wu, Kegiang He, Aditya Akella, Daehyeok Kim. [Accelerating Distributed Deep Learning using Lossless Homomorphic Compression](#). Preprint (2024).
- **Rohit Dwivedula**, Rampalli Madhuri, Komaragiri Srinivasa Raju, Arunachalam Vasan. [Multiobjective optimization & cluster analysis in the placement of BMPs in an urban flooding scenario](#). Water Science & Technology. (2021).
- **Rohit Dwivedula** & Mohan Vamsi Nallapareddy (equal contribution). [ABLE: Attention Based Learning for Enzyme Classification](#). Computational Biology and Chemistry vol. 94, p. 107558 (2021).
- Sanket Mishra, **Rohit Dwivedula**, Varad Kshirsagar, Chittaranjan Hota. [Robust Detection of Network Intrusion using Tree-based Convolutional Neural Networks](#). 8th ACM IKDD CODS & 26th COMAD (2021).
- Sanket Mishra, Varad Kshirsagar, **Rohit Dwivedula**, Chittaranjan Hota. [Attention-based Bi-LSTM for Adaptive Anomaly Detection on Time Series](#). International Conference on Artificial Neural Networks (ICANN), Lecture Notes in Computer Science, vol 12891. Springer (2021).
- **Rohit Dwivedula** & Narasimha Bolloju. [Transitioning from Plan-driven Methods to Agile Methods – Preparation for a Systematic Literature Review](#). 5th International Conference on Communication and Electronics Systems (2020).

PATENT

- *Multi-tenant Training and Inference for Fine-tuned Artificial Intelligence (AI) Models*. Bradford M. Beckmann, Kishore Punniyamurthy, Rohit Dwivedula. Assigned to Advanced Micro Devices, Inc. Filed with USPTO (Apr 2025).

HONORS & AWARDS

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| o PETS 2024 Travel Grant | 2024 |
| o Professional Development Award, UT Austin | 2024 |
| o BITS Pilani V.S. Rao Award for all-round excellence in research, leadership and volunteering | 2021 |
| o BITS Pilani Merit Scholarship to top 3% of students | 2018 |

SERVICE & OUTREACH

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| o Graduate Representative Association of Computer Sciences, UT Austin | 2024 – present |
| o Graduate Admissions Student Committee, UT Austin | 2024 |
| o Teaching Assistant, Data Structure & Algorithms (CS F211), BITS Pilani | Spring 2021 |
| o Coordinator, Placement Unit, BITS Pilani. Headed a team of ~80 volunteers. | 2020-21 |
| o Teaching Assistant, Software Engineering (IS F341), BITS Pilani | Spring 2020 |
| o Volunteer Research Intern, Central Electronics Engineering Research Institute, Chennai | Summer 2019 |
| o Teaching Assistant, Computer Programming (CS F111), BITS Pilani | Fall 2018 |

GRADUATE COURSEWORK

Principles of Learned Systems, Reinforcement Learning, Systems Security, Cryptography, Advanced Topics in Networking, Computer System Performance Analysis