Prachi Goyal

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EDUCATION

Carnegie Mellon University, School of Computer Science — Pittsburgh, Pennsylvania
Master of Science in Intelligent Information Systems — Dec 2026
Relevant courses: Deep Learning Systems, Machine Learning, Advanced Natural Language Processing
Ongoing research at OPAL, advised by Dr Gauri Joshi, in **efficient inference methods**.

Indraprastha Institute of Information and Technology Delhi — Delhi, India
Bachelor of Technology in Computer Science and Applied Mathematics — June 2023
Relevant courses: Algorithm Design and Analysis, Deep Learning, Reinforcement Learning, Artificial Intelligence, Data Mining
Teaching Assistant: Computer Organization, Introduction to Programming

PUBLICATIONS

Nazreen Shah*, Prachi Goyal*, Ranjitha Prasad. "Importance Sampling Based Federated Unsupervised Representation Learning"

- *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 2024. [Paper]
- *Conference on Neural Information Processing Systems (NeurIPS)*, *Women in M*L, 2024. [Poster]

EXPERIENCE

Microsoft — Bangalore, India
Software Engineer — June 2023 – July 2025

- Delivered Teams Graph APIs for Meetings, Teams & Channels with **200K+ monthly calls**; adopted by key enterprise partners.
- Built a Bulk Remove API with IC3 async support, **eliminating 47.5% request throttling**.
- Enhanced Transcript & Recording APIs with metadata to enable duration estimation and traceability.
- Engineered telemetry and deployment pipelines to track **1B+ monthly calls and 10% MoM growth**.
- Created BI Dashboards in Azure Data Explorer; streamlined BI reporting and surfaced monetization insights for leadership.
- Finalist at Microsoft FHL Hackathon, built an **MCP server**; Planner assistant using Graph change notifications to generate personalized to-do lists using chats, channel messages and meeting transcripts in Teams.

Microsoft
Software Engineer Intern — June 2022 – July 2022

- Implemented Killswitch support in Signals microservice using ECS flighting, developed and tested a flexible ECS framework for typed values, enabling safe and continuous deployments.
- Developed a private preview pipeline for ZTNA, filtering tenant Signals via ECS and transmitting serialized data to EventHub.

ACADEMIC AND RESEARCH PROJECTS

OPAL, Carnegie Mellon University, Advised by Dr. Gauri Joshi — Pittsburgh, PA
LLM Fill-in-the-Blank Correction — Sept 2025 – Present

- Exploring **adaptive LLM text infilling** to correct errors without full regeneration, leveraging bidirectional context for more robust reasoning. Research focus on improving inference efficiency and structured generation.

Wireless Systems Lab, IIIT-Delhi — Delhi, India
Vehicular Planning using Deep Reinforcement Learning — Aug 2022 – Dec 2022

- Developed a multi-modal deep RL architecture using actor-critic methods, ingesting both local and extended roadside views to optimize vehicular decision-making.
- Designed dual-output policy network to jointly select planner actions (acceleration, lane change) and query targets in extended view, **reducing bandwidth usage and action space by 90%**.

TavLab, IIIT-Delhi — Delhi, India
Plug-and-Play Platform for COVID-19 Resource Allocation — Jan 2022 – May 2022

- Built a configurable actor-critic RL platform using SEIR rewards and dynamic RL environments; supported temporal/non-temporal CSV inputs and live policy visualizations for healthcare resource allocation.

LEADERSHIP

Contributor, Technical Women at Microsoft — Aug 2024 – July 2025
Hosted AMAs with senior leaders to support early-career women in tech.

AI/ML Lead, Google Developer Student Circle, IIIT Delhi — Oct 2021 – Sept 2022
Mentored 200+ peers and conducted 5+ ML workshops; created a Telegram community to foster collaborative learning.

Women Techmakers Engineering Fellow, Google India — March 2020 – April 2022
Selected among 120 of 15,000+ applicants for $2,400 scholarship and bootcamps in coding and design.

SKILLS

Languages & Frameworks: Python, C, C++, C#, Java, Go, SQL, Perl, Bash/Shell Scripting, PyTorch, OpenCV, React
Tools & Platforms: Linux, x86, ARM CPU/GPU, CUDA, OpenCL, .NET, Android Studio, Apache Spark, Kafka, Power BI
Cloud & Infrastructure: Azure (DevOps, Synapse, Data Explorer, Service Fabric Cluster), AWS, Docker/Containers, Kubernetes