

Nazreen Shah Ambalath

Curriculum Vitae

+91-7034550009
✉ nazreens@iiitd.ac.in
📄 nazreenshah.github.io
🌐 nazreenshah
🌐 nazreenshah1997

Education

- 2022–
Ongoing **PhD, Department of ECE, Indraprastha Institute of Information Technology(IIIT), Ex-pected graduation: June 2026, Delhi, India.**
Supervisor: Dr. Ranjitha Prasad
Research Areas: Federated Learning, Personalized Federated Learning, Continual Federated Learning, Unsupervised Federated Learning, Decentralized Federated Learning, 8.85* CGPA
- 2015–2020 **Integrated M.Tech in Computer Science, University of Hyderabad, Telangana, India.**
First Class, 7.41 CGPA

Professional Positions

- Feb,2026–
July,2026 **Visiting Scholar, Wayne State University, Detroit, US.**
Supervised by, Dr. Prashant Khanduri, Department of Computer Science
- Sep,2021–
Jan,2022 **Research Assistant, Indraprastha Institute of Information Technology, Delhi, India.**
Supervised by Dr. Ranjitha Prasad, ECE department
Project funded by DST-SERB, India: "Personalized Federated Learning".
- Sep,2020–
Jun,2021 **Research Associate, Indian Statistical Institute, Kolkata, India.**
Supervised by Prof. Ashish Ghosh, Machine Intelligence Unit
Project funded by DRDO, India: "Hardware Trojan Detection on PCB using X-ray Images".
- Jun,2019–
Aug,2020 **M.Tech Thesis, Institute for Development and Research in Banking Technologies, Hyderabad, India.**
Supervised by Dr. Rajarshi Pal, Centre for Excellence in Cyber Security
Project: "Reversible Data Hiding in Color Images".

Publications

- 2026 Fathima Z, Shaban Z, Jamala Y., **Shah N**, Bharath B. N., Prasad R. Channel-Adaptive Robust Aggregation for Over-the-Air Federated Learning in Heterogeneous Networks. In ICASSP 2026-2026 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP). IEEE.
- 2025 **Shah N**, Arora K, Sethi A, Prasad R, Uliyar M, Krishna A G, Personalized Federated Autoencoders: Unsupervised Representation Learning at the Edge. In the 16th Indian Conference on Computer Vision, Graphics and Image Processing.
- 2025 Keshri SK, **Shah N**, Prasad R. On the Convergence of Continual Federated Learning Using Incrementally Aggregated Gradients. In the 28th International Conference on Artificial Intelligence and Statistics.
- 2025 Shaban Z, **Shah N**, Prasad R. Robust Over-The-Air Federated Learning In Heterogeneous Networks. In ICASSP 2025-2025 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP) 2025 Apr 6 (pp. 1-5). IEEE.

- 2024 **Shah N**, Prasad R. Federated Probabilistic Representation Learning using Information Geometric Approach. In Proceedings of the 8th International Conference on Data Science and Management of Data (12th ACM IKDD CODS and 30th COMAD) 2024 Dec 18 (pp. 341-343).
- 2024 Keshri SK, **Shah N**, Prasad R. Continual Federated Learning with Aggregated Gradients. In Proceedings of the 8th International Conference on Data Science and Management of Data (12th ACM IKDD CODS and 30th COMAD) 2024 Dec 18 (pp. 347-349).
- 2024 **N. Shah**, P. Goyal and R. Prasad, "Importance Sampling Based Federated Unsupervised Representation Learning," ICASSP 2024 - 2024 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), Seoul, Korea, Republic of, 2024, pp. 7565-7569
- 2023 Madhan-Sohini, A., Dominic, D., **Shah, N.**, Prasad, R. (2023, December). Over-the-air clustered wireless federated learning. In 2023 IEEE Globecom Workshops (GC Wkshps) (pp. 203-208). IEEE.

Courses Taught

- 2024 **Teaching Assistant - Probability and Random process, IIT Delhi**, Delhi, India.
- 2023 **Teaching Assistant - Convex Optimization, IIT Delhi**, Delhi, India.
- 2023, 2025 **Teaching Assistant - Distributed and Federated Machine Learning, IIT Delhi**, Delhi, India.

Professional Activities

- Summer School Selected to attend **M2L** summer school 2025 in Split, Croatia from Sep 8-12, 2025.
- Academic Summit Microsoft Research India Academic Summit 2025, Virtual.
- Conference Work accepted at sister conference track, **CoLLAs 2025**, Philadelphia, USA.
- Conference Paper accepted at **AISTATS 2025**, Phuket, Thailand.
- Conference Paper accepted at **ICASSP 2025**, Hyderabad.
- Conference Poster presented at **ICASSP 2025**, Pre-conference Event, IIT Delhi.
- Conference Poster accepted at **ICDCN 2025**, IIT Hyderabad.
- Conference Paper accepted at **CODS-COMAD Dec'24**, IIT Jodhpur - YRS Track.
- Workshops Abstract selected as a poster at **WiML workshop - NeurIPS 2024**, Vancouver, Canada.
- Summer School Selected to attend **EEML** summer school 2024 in Novi Sad, Serbia from July 15-21, 2024. I was also selected to present my work as a poster.
- Summer School Selected to attend **OxML** summer school virtually from July 1-5, 2024.
- Conference Attended **IEEE ICASSP**, Seoul, S.Korea to present the paper "Importance Sampling Based Federated Unsupervised Representation Learning" from 14-19 April, 2024.
- Conference Attended **CODS-COMAD**, January 2024
- Workshops Attended **IEEE GlobeCom** Workshops, Kuala Lumpur, Malaysia to present the paper "Over-the-air clustered wireless federated learning" from 3-8 December, 2023.
- Research Expo Presented poster on "Clustered wireless federated learning" at **RIISE 2023**.

- Research Symposium Presented at **IEEE SPS Seasonal School** on AI for Optimisation in Signal Processing Research Symposium on " Decentralized Federated Learning.
- Cyber Drill Took part in annual cyber drill banks in India at **IDRBT** in 2020.
- Hackathon Co-organized a **hackweek** in SCIS, University of Hyderabad in 2019.
- Workshop Took part in workshops for System Lab Administration and Campus Network Facilities in 2017.

Membership and Activities in Professional Associations

- MMSys 2026 Served as a reviewer for the Doctoral Symposium
- ICC 2026 Served as a reviewer
- ICASSP 2026 Served as a reviewer
- AAAI-FLCA Served as a program committee member, 2025 Workshop
- WiML-NeurIPS Served as a reviewer WiML-NeurIPS 2024, 2025
- NCC Served as a volunteer to organize NCC 2025, IIT Delhi
- IEEE Member since 2023, participated in IEEE ICASSP and GlobeCom conferences.
- IEEE SPS Member since 2024.
- IEEE WIE Member since 2024.
- IEEE Young Professionals Member since 2024.

Community Service

- 2020 Served as a joint secretary for a student organization.
- 2019 Served as hostel chairperson at University of Hyderabad.
- 2018 Served as a mess secretary for 2 months at the University of Hyderabad.
- 2018 Created a department website for the Department of Sociology, University of Hyderabad.
- 2017 Worked as a co-ordinator for the university fest (Sukoon) and community fest (Keraleeyam).

Professional Honors, Awards, and Fellowships

- 2025 Dean's List of Best Teaching Assistant, IIIT Delhi
- 2025 Full grant to attend M2L Summer School 2025, Croatia
- 2025 Awarded with financial aid to attend AISTATS 2025, Thailand
- 2025 Best Poster Award at ICDCN 2025
- 2024 Qualcomm travel grant to attend ICDCN 2025, IIT Hyderabad
- 2024 Travel grant to attend CODS COMAD Dec 2024, IIT Jodhpur
- 2024 WiML Corporate Travel Grant to attend NeurIPS 2024, Vancouver, Canada
- 2024 Full grant to attend EEML 2024, Serbia
- 2024 IEEE SPS Travel Grant to attend IEEE ICASSP 2024, Seoul, South Korea
- 2024 Travel grant to attend CODS-COMAD 2024 January, IIIT Bangalore
- 2023 Prime Minister's Research Fellowship, SERB-FICCI
- 2021 Junior Research Fellowship, DST-SERB

2019 UGC-NET qualified
2019 GATE qualified
2014 Mathematics School Topper (Gold Medal)
2014 Computer-Maths Stream Topper (Gold Medal)

Skills

Programming Python, Pytorch, Numpy, Scipy, Matlab, Latex, Markdown, C/C++

Technical Convex Optimization, Bayesian Machine Learning, Classification, Deep Learning, Linear Algebra, Federated Learning

Soft Skills Team Work, Agile, Observant, Responsible, Hard-Working

Languages

English Proficient

Malayalam Native

Tamil Intermediate

Hindi Intermediate

Arabic Basic

References

Available upon request.