

Jeet Shah

Machine Learning Engineer

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Education

Columbia University

Sep 2026 – Expected Dec 2027

M.S. Computer Science, Network Systems Pathway · New York, NY
Current coursework: Networks for AI, Analysis of Algorithms.

FLAME University

Aug 2021 – May 2025

B.Sc. (Hons.) Computer Science; PG Diploma in Interdisciplinary Studies · Pune, India
CGPA: 8.9/10; merit scholarships covering 25% (2021–2024) and 60% (2024–2025) of tuition.
Selected completed coursework: Advanced Machine Learning, Applied Multivariate Statistics, Numerical Methods.

Engineering and Research Experience

Voltek AI

Oct 2024 – Aug 2026

Software Engineer (Part-time)

- Built a Next.js battery-research assistant with internal-document retrieval, web search, citations, streamed responses, and chat history across OpenAI, Anthropic, Gemini, and xAI.
- Replaced join-heavy PostgreSQL process storage with three indexed tables, transactional writes, and validated backfills; reduced observed material-query latency from 3–20 seconds to under 500 ms.
- Co-maintained NDAX and Neware instrument-data ingestion pipelines with file reconciliation and defensive parsing for incomplete file sets.

Centre for Interdisciplinary AI, FLAME University

Jan 2024 – May 2025

Research Assistant

- Co-developed ConvGRU, conditional-GAN, and ConvLSTM training pipelines and satellite-data ingestion tooling for precipitation nowcasting.
- Administered a multi-user GPU server: user accounts, drivers, storage, and isolated training environments.

Space Applications Centre, ISRO

May 2023 – Aug 2023

Research Intern

- Developed ConvLSTM precipitation-nowcasting models with INSAT-3D satellite data in an air-gapped high-performance computing environment.

Selected Projects

INSAT-3D Precipitation Nowcasting

[Thesis & code](#)

- Built satellite-data caching, temporal-window generation, and ConvLSTM training/evaluation pipelines in Python, TensorFlow/Keras, OpenCV, and HDF5.
- Reduced six-hour forecast RMSE by 30.7% against a Lucas–Kanade optical-flow baseline; undergraduate thesis supervised by Kaushik Gopalan (2025).

Nilakan Programming Language

[Documentation & Playground](#)

- Implement Nilakan with Prajas Naik; language fundamentals designed by Prof. Aamod Sane.
- Implement the parser, static checks, interpreter, runtime diagnostics, CLI, and browser playground in TypeScript; maintain documentation and cross-browser tests.

Research Outputs

Weather4Cast, team kaubega: First on the 2024 core-challenge leaderboard; second in the 2025 cumulative-rainfall task.

Preprints

- Co-author, [Computationally-efficient deep learning models for nowcasting of precipitation](#) (Weather4Cast 2025), arXiv:2511.11197.
- Co-author, [A conditional Generative Adversarial network model for the Weather4Cast 2024 Challenge](#), arXiv:2412.00451.

Technical Skills

Programming and data: Python, SQL, TypeScript, C++, NumPy, OpenCV, HDF5, PostgreSQL.

ML: TensorFlow/Keras, PyTorch, ConvLSTM, ConvGRU, conditional GANs, variational autoencoders, retrieval-augmented generation.

Infrastructure and tooling: Linux, GPU-server administration, Docker, Git, GitHub Actions, FastAPI.