Nilesh Patil

Mumbai, nilesh5760<at>gmail.com

PROFILE

AI leader building deployable AI systems, agentic workflows, and organizational adoption in regulated and large-scale environments. Currently Head of AI at DreamStreet, building compliance-aware AI architecture for investor and trader workflows across research, brokerage, and advisory domains. Previously led applied AI research at Dream Sports / Dream11, including a Columbia University research center collaboration, cross-geography teams across India and New York, and production ML systems at 250M+ user scale.

Particularly interested in AI harness design, developer productivity, and turning emerging model capabilities into reliable workflows and products.

Github | Medium | LinkedIn | Website | Google Scholar

EDUCATION

2017 — M.S. in Data Science, University of Rochester — Rochester, NY

2013 — Bachelor of Technology, Indian Institute of Technology, Roorkee — Roorkee, IN

EMPLOYMENT HISTORY

2026 — Present — Head of AI, DreamStreet — Mumbai

- *Built full-stack AI systems for Indian investors and traders spanning research, brokerage, and advisory workflows in a SEBI-regulated environment.*
- *Led development of a compliance-aware AI harness for brokerage and advisory use cases, emphasizing reliability, controllability, and audit-friendly workflow design.*
- *Translated domain, product, and regulatory requirements into deployable AI architecture, agentic workflows, and user-facing copilots.*
- *Drove AI adoption across the organization through training, rapid prototypes, and redesign of existing workflows around agents and model-assisted operations.*
- *Built **Hermes**-based in-house automation agents across Marketing, Finance, IT, Tech, and HR, and set up self-hosted SLMs and agent tooling across local, GCP, and AWS environments*

2019 — 2026 — Senior Principal Research Scientist / Head of Applied Research, Dream11 — Mumbai

- *Built Dream Sports' collaboration with **Columbia University, NY** and helped establish a **multi-million-dollar research center** focused on ML, AI research, and real-world applications.*
- *Headed applied AI research for Dream Sports and led a high-performing cross-continent team of research scientists, applied scientists, and ML engineers across India and New York.*
- *Led cross-team workshops to identify ~23 technical problems; converted 10 into funded projects over two years spanning sports robotics, LLM-based persona simulators, and agentic evaluators for personalization.*
- *Delivered regular data, ML, and AI training sessions across Dream Sports for audiences ranging from ~10 to 200 participants.*
- *Co-led Sports x AI sessions at Columbia University for students, post-docs, and faculty, translating industry problems into research and teaching material.*
- *Designed and built deep-learning based churn prediction system and LLM-based behavior simulation workflows for 250M+ user lifetime trajectories.*
- *Conceptualized and led real-time forecasting for ~50k+ forecasts under strict latency constraints.*
- *Led distributed recommendation, content tagging, text similarity search for ~100M entities, and feature-store systems supporting 250M+ users.*

2017 — 2019 — Staff Data Scientist, Center for Vaccine Biology, University of Rochester — Rochester, NY

Built automated and self-serve ML systems for bio-imaging research, including 3D reconstruction from hyper-spectral microscopic scans.

2014 — 2016 Data Scientist, AXA Insurance Pune

Built mortality-forecasting system and scaled statistical analysis pipelines with Spark and Python.

2013 — 2014 Data Analyst, AbsolutData Research & Analytics Gurgaon

Built a multi-stage equipment-failure prediction ML system using sensor, oil-tests, and human-labeled alert data.

SELECTED PUBLICATIONS

2019 — 2026 Head of Research, Dream11

- ***Structure-Guided Entity Resolution: Fine-Tuning LLMs for Robust Name Matching in Complex Linguistic Contexts,*** *2026, Association for Computational Linguistics, USA. https://openreview.net/forum?id=rLisRb1T1Y*
- ***Early churn prediction from large scale user-product interaction time series.*** *2023 International Conference on Machine Learning and Applications (ICMLA). IEEE, 2023. https://doi.org/10.1109/ICMLA58977.2023.00314*
- ***Optimizing Fantasy Sports Team Selection with Deep Reinforcement Learning,*** *In Proceedings of CODS-COMAD '24. Association for Computing Machinery, New York, NY, USA, 284–291. https://doi.org/10.1145/3703323.3703743*
- *Additional team publications: 6+ papers in causal ML, recommender systems, and LLM applications*

2016 — 2019 Staff Data Scientist Rochester, NY

- ***Automated Ultrasound Doppler Angle Estimation Using Deep Learning****. In 2019 41st Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), pp. 28-31. IEEE, 2019 https://pubmed.ncbi.nlm.nih.gov/31945837*
- ***CXCL10+ perivascular clusters nucleate Th1 cell tissue entry and activation in the inflamed skin.*** *Accepted into Journal of Immunology : https://www.jimmunol.org/content/204/1_Supplement/220.9*
- ***CXCL10+ peripheral activation niches couple preferred sites of Th1 entry with optimal APC encounter,*** *Accepted to Cell Reports https://www.biorxiv.org/content/10.1101/2020.10.04.324525v1.full*