Mano Vikash Janardhanan

Curriculum Vitae

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Experience

2026–present **Principal ML Engineer, AI Team**, *Equinix*, Toronto, ON

2021–2026 **Quantitative Researcher**, *Balyasny Asset Management*, New York, NY

- Led AI/ML initiatives in the Applied AI team, building production-grade agentic AI systems and a custom domain-adapted LLM for tool use in financial workflows (2023–2025).
- Built and deployed large-scale NLP models for financial text analysis with state-of-the-art domain-specific performance; published at EMNLP 2024 [1], model weights released on Hugging Face.
- Developed financial text embedding models by distilling Mixtral-8x22B and Llama-3.3-70B; selected a 560M-parameter final model through systematic performance vs. compute trade-off evaluation.
- Developed and productionized ML models for alpha generation in US equities (2021–2023), applying computational learning theory for model validation and generalization in non-stationary settings.

2019–2021 **Research Scientist**, *Lifion by ADP*, New York, NY

- Led an ML team of 3 researchers building recommendation and search systems for an HR tech platform; architected and deployed the recommendation engine and a BERT-based semantic search system.
- Built real-time inference pipelines with sub-100ms latency and an A/B testing framework to drive data-driven product decisions.

2016–2019 **PhD Thesis Research**, *University of Illinois at Chicago*, Chicago, IL

- Designed algorithms for learning graph structure from queries [7], graph verification [8], and anomaly detection in dynamic networks via non-local curvature [3]. Advised by Prof. Bhaskar DasGupta and Prof. Lev Reyzin.

2018 **Research Intern**, *Google Research*, New York, NY

- Developed deep learning architectures for multi-horizon time-series forecasting in the Research and Machine Intelligence team, with large-scale experiments over millions of time series. Advised by Dr. Vitaly Kuznetsov.

Education

2014–2019 **PhD, Mathematics**, *University of Illinois at Chicago*, Chicago, IL, Advisor: Prof. Lev Reyzin

2009–2014 **MS, Mathematics**, *Indian Institute of Science Education and Research*, Thiruvananthapuram, India

Technical Skills

Machine Learning: Large Language Models, NLP, Deep Learning, Time Series Forecasting, Recommender Systems, Knowledge Graphs, Online & Reinforcement Learning

Tools: Python, C++, PyTorch, TensorFlow, Hugging Face Transformers, scikit-learn, XGBoost, NumPy, Pandas, AWS, Git, Linux

Talks & Service

Talks: *Graph Verification with a Betweenness Oracle*: Google Research Seminar, New York (2018); Algorithmic Learning Theory, Kyoto University (2017). *Network Construction with Ordered Constraints*: FSTTCS, IIT Kanpur (2017).

Reviewer: RANDOM 2018, ALT 2019, COLT 2019

Publications

[1] Peter Anderson, Mano Vikash Janardhanan, Jason He, Wei Cheng, and Charlie Flanagan. "Greenback Bears and Fiscal Hawks: Finance is a Jungle and Text Embeddings Must Adapt". In: *Proceedings of the 2024 Conference on Empirical Methods in Natural Language Processing: Industry Track*. Miami, Florida, US: Association for Computational Linguistics, Nov. 2024, pp. 362–370.

[2] Mano Vikash Janardhanan and Lev Reyzin. "On Learning a Hidden Directed Graph with Path Queries". In: *58th Annual Allerton Conference on Communication, Control, and Computing*. 2022, pp. 1–5.

[3] Bhaskar DasGupta, Mano Vikash Janardhanan, and Farzane Yahyanejad. "Why Did the Shape of Your Network Change? (On Detecting Network Anomalies via Non-local Curvatures)". In: *Algorithmica* 82.7 (2020), pp. 1741–1783.

[4] Mohsen Aliabadi and Mano Vikash Janardhanan. "On Matchable Subsets in Abelian Groups and Their Linear Analogues". In: *Linear Algebra and its Applications* (2019).

[5] Mano Vikash Janardhanan. "Algorithms for Learning Networks and Learning from Networks". PhD thesis. University of Illinois at Chicago, 2019.

[6] Mohsen Aliabadi and Mano Vikash Janardhanan. "On Local Matching Property in Groups and Vector Spaces". In: *Australasian Journal of Combinatorics* 70.1 (2018), pp. 75–85.

[7] Yi Huang, Mano Vikash Janardhanan, and Lev Reyzin. "Network Construction with Ordered Constraints". In: *37th IARCS Annual Conference on Foundations of Software Technology and Theoretical Computer Science (FSTTCS)*. Vol. 93. Leibniz International Proceedings in Informatics (LIPIcs). 2017, 34:1–34:13.

[8] Mano Vikash Janardhanan. "Graph Verification with a Betweenness Oracle". In: *Proceedings of the 28th International Conference on Algorithmic Learning Theory*. Vol. 76. Proceedings of Machine Learning Research. 2017, pp. 238–249.

[9] Mano Vikash Janardhanan and Sujith Vijay. "Ramsey Functions for Generalized Progressions". In: *Integers* 15 (2015), A27.

[10] Mano Vikash Janardhanan. "Topics in Ramsey Theory". MS thesis. Indian Institute of Science Education and Research, Thiruvananthapuram, Apr. 2014.