Pranav Maneriker

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Professional Summary

PhD graduate in Computer Science with specialization in robust, auditable machine learning for multimodal data using graph structures. Proven track record of developing state-of-the-art models, securing patents, and publishing in top-tier venues (KDD, EMNLP, The Web Conference, ICLR), and contributing to successful grant applications. Seeking to leverage expertise in Foundational Artificial Intelligence (AI) models, Graph Machine Learning (ML) to contribute to Dolby AI efforts.

Core Competencies

Primary Specialty: Robust and auditable machine learning for multimodal data using graph structures, including foundational and generative models.

Key Capabilities: Natural Language Processing (including Large Language Models), Graph ML, Image/Video Generation, Diffusion Models, ML Auditing and Safety, Structured Data Processing, Computational Linguistics, Parallel Computing, Optimization.

Education

The Ohio State University	08/21/2018 - 05/05/2024
Columbus, OH, USA	*GPA: 4.0/4.0*
MS, Computer Science and Engineering	Awarded 07/05/2023
PhD, Computer Science and Engineering	Awarded 05/05/2024
Advisor: Dr. Srinivasan Parthasarathy	

IIT Kanpur	07/30/2012 - 04/28/2016
Kanpur, UP, India	*GPA: 9.2/10*
BTech, Computer Science and Engineering	Awarded 06/28/2016
Minor in English Literature	

Experience

Dolby Laboratories	Atlanta, GA, USA
Senior Researcher, Experience Delivery	06/17/2024 - Present

- Develop foundational AI models using graph structures to represent and enhance multimodal content (video, audio, text) for enhanced Dolby experiences, including HDR enablement.
- Deploy foundational AI models to demonstrate Dolby-specific use cases for video generation models.
- Apply expertise in robust and auditable machine learning techniques to ensure model reliability and safety.
- High-quality outputs are fundamental to Dolby's brand, and current objectives in expanding AI use at Dolby must be informed with robust and auditable systems to ensure high-quality,.

The Ohio State University	Columbus, OH, USA
Graduate Research Associate	08/17/2019 - 05/05/2024

Duration of employment excludes the overlapped positions below.

- Developed state-of-the-art stylometry techniques using graph structures and multitask learning (SYSML) to analyze social networks and text from darknet forums, leading to publication at EMNLP 2021.
- Created novel online methods (AVOIR) for auditing the safety and uncertainty of machine learning models, resulting in a publication at KDD 2023 and a US Patent Application.
- Contributions in my thesis expanded by co-authors to enable auditing of safety under uncertainty in graph models, resulting in a publication at ICLR 2025 and an ongoing US Patent Application.
- Successfully co-authored grant proposals (NSF #2133650 $499,995; Cisco Research - $199,931) focusing on interpretable graph models and ML auditing.
- The multimodal learning and auditable ML modeling expertise gained in this role contributes to the high-quality AI output objectives of the current role.

Johns Hopkins University	Baltimore, MD, USA
Visiting Research Scholar	06/06/2022 - 08/04/2022

- Led graph structure-based stylometry approach for Author Identification (AID) during the SCALE 2022 workshop.
- Curated and analyzed large-scale Reddit datasets to study scaling laws and demographic properties of AID models.
- Experience with graph models and curating/analysis of large datasets crucial to scaling AI efforts in current role.

Dataminr Inc. New York, NY/Remote, USA
Research Intern 05/17/2021 - 08/13/2021

- Conducted research under Non-Disclosure Agreement.

Microsoft Research Redmond, WA/Remote, USA
Research Intern 05/18/2020 - 08/07/2020

- Developed and scaled Transformer models for training on large datasets across multi-node compute clusters.
- Co-developed URLTran, a Transformer-based approach for malicious URL detection, leading to a publication at MILCOM 2021 and a US Patent.
- Familiarity with large foundational AI model training directly utilized in my current role.

Amazon Seattle, WA, USA
Applied Scientist Intern 05/06/2019 - 08/09/2019

- Applied metric learning and few-shot learning techniques to enhance fraud detection models within the Buyer Fraud team (Transaction Risk Management Systems).
- Used metric learning and few-shot learning approaches to improve performance and reduced data requirements for fraud detection over the deployed system.

Adobe Systems India Pvt Ltd Bengaluru, KA, India
Subsiduary of Adobe Inc, San Jose, CA, USA
Research Associate 06/06/2016 - 07/18/2018
Research Intern 05/04/2015 - 07/24/2015

- Led projects developing novel models for text summarization, computational creativity (brand name generation, template generation), and figure-based multimodal Question Answering.
- Developed and applied causal modeling with econometric methods to measure the impact of website interventions
- Contributed to patented innovations in content construction, multimedia summarization, style consistency, and personalized targeting.
- Co-authored multiple publications and patents resulting from research contributions.

IIT Kanpur Kanpur, UP, India
Tutor, Introduction to Programming 12/31/2015 - 04/28/2016
Teaching Assistant, Data Structures and Algorithms 07/27/2015 - 11/26/2015

PUBLICATIONS

- **Pranav Maneriker***, Aditya Vadlamani*, Anutam Srinivasan, Yuntian He, Ali Payani, Srinivasan Parthasarathy. **Benchmarking Graph Conformal Prediction: Empirical Analysis, Scalability, and Theoretical Insights**, Transactions of Machine Learning Research (**TMLR**), 2025.

- Amin Meghrazi, **Pranav Maneriker**, Swati Padhee, Srinivasan Parthasarathy. **Interactive Fairness Auditing: Leveraging AVOIR for Dynamic Evaluation and Mitigation**, International Conference on Management of Data (**SIGMOD Demo**), ACM, 2025

- Aditya T Vadlamani, Anutam Srinivasan, **Pranav Maneriker**, Ali Payani, Srinivasan Parthasarathy. **A generic framework for conformal fairness**, International Conference on Learning Representations (**ICLR**), 2025.

- Hongjie Chen, Aaron D Beachnau, Panos Thomas, **Pranav Maneriker**, Josh Kimball, Ryan A Rossi. **Live-its: Lsh-based interactive visualization explorer for large-scale incomplete time series**, International Conference on Big Data (**BigData**), IEEE, 2024

- **Pranav Ravindra Maneriker**. **The Role of Structure in Building Adaptive Machine Learning**. PhD Thesis, The Ohio State University, 2024.

- **Pranav Maneriker**, Codi Burley, Srinivasan Parthasarathy. **Online Fairness Auditing through Iterative Refinement**, Conference on Knowledge Discovery and Data Mining (**KDD**), ACM, 2023.

- Saket Gurukar, Priyesh Vijayan, Srinivasan Parthasarathy, Balaraman Ravindran, Aakash Srinivasan, Goonmeet Bajaj, Chen Cai, Moniba Keymanesh, Saravana Kumar, **Pranav Maneriker**, Anasua Mitra, Vedang Patel. **Benchmarking and Analyzing Unsupervised Network Representation Learning and the Illusion of Progress**, Transactions of Machine Learning Research (**TMLR**), 2022.

- **Pranav Maneriker**, Yuntian He, Srinivasan Parthasarathy. **SYSML: StYlometry with Structure and Multitask Learning: Implications for Darknet Forum Migrant Analysis**, Conference on Empirical Methods in Natural Language Processing (**EMNLP**), ACL, 2021.

- **Pranav Maneriker***, Jack Stokes*, Edir Lazo, Diana Carutasu, Farid Tajaddodianfar, Arun Gururajan. **URLTran: Improving Phishing URL Detection Using Transformers**, Military Communications Conference (**MILCOM**), IEEE, 2021.

- Nikhita Vedula, Nedim Lipka, **Pranav Maneriker**, Srinivasan Parthasarathy. **Open Intent Extraction from Natural Language Interactions**, The Web Conference, (**WWW**), ACM, 2020. **Best Paper Award**.

- Goonmeet Bajaj, Bortik Bandyopadhyay, Daniel Schmidt, Pranav Maneriker, Christopher Myers, Srinivasan Parthasarathy. **Understanding knowledge gaps in visual question answering: Implications for gap identification and testing**, Conference on Computer Vision and Pattern Recognition Workshops (**CVPR Workshop**), IEEE/CVF, 2020

- Paridhi Maheshwari, Nitish Bansal, Surya Dwivedi, Rohan Kumar, Pranav Maneriker, Balaji Vasan Srinivasan. **Exemplar based experience transfer**, International Conference on Intelligent User Interfaces (**IUI**), ACM, 2019.

- Ritwick Chaudhry, Sumit Shekhar, Utkarsh Gupta, **Pranav Maneriker**, Prann Bansal, Ajay Joshi. **LEAF-QA: Locate, Encode & Attend for Figure Question Answering**, Winter Conference on Applications of Computer Vision (**WACV**) 2020.

- Byung-Doh Oh*, **Pranav Maneriker***, Nanjiang Jiang*. **THOMAS: The Hegemonic OSU Morphological Analyzer using Seq2seq**, Special Interest Group on Computational Morphology and Phonology (SIGMORPHON), (**ACL Workshop**), ACL, 2019.

- **Pranav Maneriker**, Nikhita Vedula, Hussein S Al-Olimat, Jiayong Liang, Omar El-Khoury, Ethan Kubatko, Desheng Liu, Krishnaprasad Thirunarayan, Valerie Shalin, Amit Sheth. **A pipeline for disaster response and relief coordination**, Conference on Research and Development in Information Retrieval (**SIGIR**), ACM, 2019.

- Nikhita Vedula, **Pranav Maneriker**, Srinivasan Parthasarathy. **BOLT-K: Bootstrapping ontology learning via transfer of knowledge**, International World Wide Web Conference (**WWW**), ACM, 2019.

- Ritwik Sinha, Dhruv Singal, **Pranav Maneriker**, Kushal Chawla, Yash Shrivastava, Deepak Pai, Atanu R Sinha. Forecasting granular audience size for online advertising. ADKDD'18 (**KDD Workshop**), ACM, 2018.

- Balaji Vasan Srinivasan, **Pranav Maneriker**, Kundan Krishna, Natwar Modani. **Corpus-based Content Construction**, International Conference on Computational Linguistics (**COLING**), ACL, 2018.

- Atanu Sinha, Meghanath Macha, **Pranav Maneriker**, Sopan Khosla, Avani Samdariya, Navjot Singh. **Anti-Ad Blocking Strategy: Measuring its True Impact**, TargetAd and AdKDD (**KDD workshop**), ACM, 2017

- Gaurush Hiranandani, Kumar Ayush, Chinnaobireddy Varsha, Atanu Sinha, **Pranav Maneriker**, Sai Varun Reddy Maram. [Poster] **Enhanced personalized targeting using**

augmented reality. International Symposium on Mixed and Augmented Reality (**ISMAR**), IEEE, 2017.

- Gaurush Hiranandani, **Pranav Maneriker**, Harsh Jhamtani. Generating Appealing Brand Names, Computational Linguistics and Intelligent Text Processing (**CICLing**), Springer, 2017

- Natwar Modani, **Pranav Maneriker**, Gaurush Hiranandani, Atanu Sinha, Utpal, Vaishnavi Subramanian, Shivani Gupta. Summarizing Multimedia Content, Web Information Systems Engineering (**WISE**), IEEE, 2016

* Denotes shared first authorship.

PATENTS

- **Pranav Maneriker**, Srinivasan Parthasarathy, Codi Burley. Systems and methods for measuring and auditing fairness, 07/25/2024. US Patent App. 18/419,130.

- Jack Wilson Stokes III, **Pranav Ravindra Maneriker**, Arunkumar Gururajan, Diana Anca Carutasu, Edir Vinicio Garcia Lazo. Phishing url detection using transformers, 06/04/2024. US Patent 12,003,535.

- Balaji Vasan Srinivasan, **Pranav Ravindra Maneriker**, Natwar Modani, Kundan Krishna. Constructing content based on multi-sentence compression of source content, 03/16/2021. US Patent 10,949,452.

- Balaji Vasan Srinivasan, Shiv Kumar Saini, Kundan Krishna, Anandhavelu Natarajan, Tanya Goyal, **Pranav Ravindra Maneriker**, Cedric Huesler. Bundling online content fragments for presentation based on content-specific metrics and inter-content constraints, 01/12/2021. US Patent 10,891,667.

- Atanu R Sinha, Meghanath Macha Yadagiri, **Pranav Ravindra Maneriker**, Sopan Khosla, Avani Samdariya, Navjot Singh. Techniques to quantify effectiveness of site-wide actions, 08/17/2021. US Patent 11,093,957.

- Ritwik Sinha, **Pranav Ravindra Maneriker**, Dhruv Singal, Atanu R Sinha. Identifying high value segments in categorical data, 02/23/2021. US Patent 10,929,438.

- Ritwik Sinha, Virgil-Artimon Palanciuc, **Pranav Ravindra Maneriker**, Manish Dash, Tharun Mohandoss, Dhruv Singal. Accurate and interpretable rules for user segmentation, 12/14/2021. US Patent 11,200,501.

- **Pranav Ravindra Maneriker**, Vishwa Vinay, Sopan Khosla, Niyati Himanshu Chhaya, Natwar Modani, Cedric Huesler, Balaji Vasan Srinivasan, Anandhavelu Natarajan. Fact replacement and style consistency tool, 12/07/2021. US Patent 11,194,958.

- **Pranav Ravindra Maneriker**, Reshmi Sasidharan, Atanu R Sinha. Facilitating changes to online computing environment by assessing impacts of temporary interventions, 06/15/2021. US Patent 11,038,785.

- Balaji Vasan Srinivasan, Surya S Dwivedi, Rohan Kumar, **Pranav Ravindra Maneriker**, Paridhi Maheshwari, Nitish Bansal. Techniques for generating templates from reference single page graphic images, 10/08/2020. US Patent App. 16/376,906.

- Natwar Modani, Vaishnavi Subramanian, Utpal, Shivani Gupta, **Pranav R Maneriker**, Gaurush Hiranandani, Atanu R Sinha. Multimedia document summarization, 09/01/2020. US Patent 10,762,283.

- **Pranav Ravindra Maneriker**, Anandhavelu Natarajan, Vivek Gupta, et al. Predicting style breaches within textual content, 05/12/2020. US Patent 10,650,094.

- Natwar Modani, Vaishnavi Subramanian, Utpal, Shivani Gupta, **Pranav Ravindra Maneriker**, Gaurush Hiranandani, Atanu R Sinha,. Determining quality of a summary of multimedia content, 09/27/2016. US Patent 9,454,524.

SERVICE

- **Peer Reviewer**:
  - National Conferences (India): ACM CODS-COMAD (2021, 2022, 2023)

- International Conferences: ACM The Web Conference (2020), AAAI (2021), EMNLP (2021, 2022, 2023, 2024), ACL (2023), ACM KDD (2023, 2025), SIAM Conference on Data Mining (SDM 2023), ICLR 2025.
- Journals: IEEE Transactions on Big Data (TBD 2023), Journal of Machine Learning Research (JMLR 2024), International Journal of Computer Vision (IJCV 2024), PLOS ONE (2024), Springer Data Mining and Knowledge Discovery (2024, 2025), IEEE Transactions on Pattern Analysis and Machine Intelligence (2024, 2025).

- **Student Volunteer**: ACM SIGIR 2019, ACM KDD 2023

- **Peer Mentor** (GUIDE) at The Ohio State University (2021)

Awards and Achievements

- **Poster Award** (2nd place) (2023) Poster at the Interdisciplinary Research Fall Forum, TDAI, OSU.

- **Graduate Research Award** (2023) for thesis proposal from the CSE department at OSU, awarded to top 5 PhD candidates across the department.

- **Graduate Poster Award** (2023) at the Annual Departmental Poster Exhibition, CSE, OSU, awarded to the top 4 posters out of 44 total.

- **Best Paper Award** (2020) at The Web Conference, for paper titled "Open Intent Extraction from Natural Language Interactions" selected from 1129 submissions (219 accepted).

- **Aditya Birla Group Scholarship** (2012 - 2016) Awarded to about 15 students from the top Engineering Schools across India on the basis of academic and co-curricular excellence.

- **Academic Excellence Award** (2013) Awarded to top 7% of the students in the university.

- **International Collegiate Programming Contest** (ICPC 2014) Positioned 22nd among the top 250 teams across India in Amritapuri Regionals.

- **IIT JEE, AIEEE** (2012) Ranked 145 among 0.5 million, and 39 out of 1.2 million candidates respectively in national examinations