Pranav Maneriker

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Research Interests

Natural Language Processing, Structured Data Processing, Uncertainty Quantification, Stylometry, Graph Embedding, ML Auditing, Fairness in ML, Knowledge Graphs, Language Modeling

Education

The Ohio State University   August 2018 | Present
MS in Computer Science and Engineering
PhD in Computer Science and Engineering. *GPA: 4.0/4.0*   Advisor: Dr. Srinivasan Parthasarathy

IIT Kanpur   June 2012 | Jun 2016
BTech Computer Science and Engineering. *GPA: 9.2/10*
Minor in English Literature

Experience

The Ohio State University   Columbus, Ohio
Research Assistant   Aug 2018 | Present

- Multiple projects on semantic, stylistic analysis of text and probabilistic auditing for fairness. Work led to state-of-the-art results and publications at The Web Conf, EMNLP, and KDD.
- Participated in writing successful applications for NSF and industry research grants.

Johns Hopkins University   Baltimore, Maryland
Visiting Research Scholar   Jun 2022 | Aug 2022

- Lead the structure-based effort to improve Author identification (AID) through stylometry at SCALE 2022.
- Curated large Reddit datasets for studying scaling laws and demographic properties of author identification models.

Dataminr Inc.   New York City, New York
Research Intern, Work under NDA   May 2021 | Aug 2021

Microsoft Research   Redmond, Washington
Research Intern   May 2020 | Aug 2020

- Scaled transformer models to train from scratch on large datasets across multiple nodes.
- Work on malicious URL detection was published at a top security conference (MILCOM).

Amazon   Seattle, Washington
Applied Scientist Intern   May 2019 | Aug 2019

- Worked on fraud detection in the Buyer Fraud team at Transaction Risk Management Systems.
- Used metric learning and few-shot learning approaches for improved performance and data efficiency for fraud detection over the deployed system.

Adobe Research   Bengaluru, India
Research Associate   June 2016 | Jul 2018
Research Intern   May 2015 | Jul 2015

- Led projects in diverse areas, including text summarization, computational creativity, and causal modeling of interventions with econometric methods. Work resulted in multiple patents and publications.
- Mentored groups of undergraduate researchers whose projects were published at workshops at KDD and in main conference proceedings at IUI and WACV.

IIT Kanpur   Kanpur, India
Teaching Assistant, Introduction to Programming   Jan 2016 | Apr 2016
Teaching Assistant, Data Structures and Algorithms   Aug 2015 | Nov 2015

Selected Publications

- **Pranav Maneriker**, Codi Burley, Srinivasan Parthasarathy, **Online Fairness Auditing trhough Iterative Refinement**, Conference on Knowledge Discovery and Data Mining (**SIGKDD**) 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 (**TMRL**) 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)** 2021.
- **Pranav Maneriker***, Jack Stokes*, Edir Lazo, Diana Carutasu, Farid Tajaddodianfar, Arun Gururajan, **URLTran: Improving Phishing URL Detection Using Transformers**, **(MILCOM)** 2021.
- Nikhita Vedula, Nedim Lipka, **Pranav Maneriker**, Srinivasan Parthasarathy, **Open Intent Extraction from Natural Language Interactions**, The Web Conference **(WWW)** 2020, **Best Paper Award**.
- 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**, **(SIGMORPHON Workshop)**, Association for Computational Linguistics **(ACL)** 2019.
- Balaji Vasan Srinivasan, **Pranav Maneriker**, Kundan Krishna, Natwar Modani. **Corpus-based Content Construction**, International Conference on Computational Linguistics **(COLING)** 2018.
- Natwar Modani, **Pranav Maneriker**, Gaurush Hiranandani, Atanu Sinha, Utpal, Vaishnavi Subramanian, Shivani Gupta. **Summarizing Multimedia Content** Web Information Systems Engineering **(WISE)** 2016.

* Denotes shared first authorship. For full list, see Google Scholar

SELECTED PATENTS

- **P Maneriker**, R Sasidharan, A Sinha, **Facilitating changes to online computing environment by assessing impacts of temporary interventions**, US Patent 11,665,073. 2023
- J Stokes, **P Maneriker**, A Gururajan, D Carutasu, E Lazo, **Phishing url detection using transformers**, US Patent App. 17,246,352. 2022
- R Sinha, **P Maneriker**, D Singal, A Sinha, **Identifying high value segments in categorical data**, US Patent 10,929,438. 2021
- A Sinha, M Yadagiri, **P Maneriker**, S Khosla, A Samdariya, N Singh, **Techniques to quantify effectiveness of site-wide actions**, US Patent 11,093,957. 2021
- **P Maneriker**, V Vinay, S Khosla, N Chhaya, N Modani, C Huesler, BV Srinivasan, A Natarajan, **Fact Replacement and Style Consistency Tools**, US Patent 11,194,958. 2021
- N Modani, V Subramanian, S Gupta, **P Maneriker**, Utpal, G Hiranandani, A Sinha, **Multimedia Document Summarization**, US Patent 10,762,283. 2020
- **P Maneriker**, A Natarajan, V Gupta, K Basava Raj, **Predicting style breaches within textual content**, US Patent 10,650,094. 2020
- N Modani, V Subramanian, S Gupta, **P Maneriker**, Utpal, G Hiranandani, A Sinha, **Determining quality of a summary of multimedia content**, US Patent 9,454,524. 2016

SERVICE

- PC: WWW '20, CODS-COMAD ('21 - '22) AAAI '21, EMNLP ('21 - '23), ACL '23, KDD '23, SDM '23, IEEE TBD '23.
- Travel Award/Student Volunteer: SIGIR 2019, KDD 2023
- Peer Mentor (GUIDE) at The Ohio State University (2021)

AWARDS AND ACHIEVEMENTS

- **Poster Award** (2nd) (2023) place for poster at the Interdisciplinary Research Fall Forum, TDAI, OSU.
- **Graduate Research Award** (2023) for thesis proposal from the CSE department at OSU, awarded to 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.
- **Aditya Birla Group Scholarship** (2012 - 2016) Awarded to about 15 students from the top Engineering Schools across India based on 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 Regional.

COURSEWORK | LANGUAGES | FRAMEWORKS

Courses	Computational Linguistics, Parallel Computing, Probabilistic Machine Learning, Optimization
Languages	Python, Java, C++, C, Bash (shell scripting)
Frameworks	PyTorch, TensorFlow, scikit-learn, Git, Pandas, Dask, CUDA