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, Information Extraction

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 lead on semantic and stylistic analysis of text, and probabilistic auditing for fairness. Work lead to state-of-the-art results and publications at The Web Conf, EMNLP, KDD.
- Participated in grant application writing and presentations for successful funding at NSF and industry research grants.

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

- Lead the structure-based approach effort that aimed to utilize graph structure to improve Author IDentifcation (AID)through stylometry at SCALE 2022.
- Also worked on curating 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 to improved performance and reduced data requirements for fraud detection over the deployed system.

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

- Lead multiple projects in diverse areas including including text summarization, computational creativity, causal modeling of interventions with econometric methods, frequent itemset mining based models.
- Work resulted in multiple patents and publications.

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.
- **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
- 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
- **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
- R Sinha, V Palanciuc, **P Maneriker**, M Dash, T Mohandoss, D Singal, **Accurate and interpretable rules for user segmentation**, US Patent App. 11,200,501. 2021
- 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/Reviewer: WWW '20, CODS-COMAD ('21, '22) AAAI '21, EMNLP ('21 - '23), ACL '23, KDD '23
- Student Volunteer: SIGIR 2019, KDD 2023
- Peer Mentor (GUIDE) at The Ohio State University (2021)

Awards and Achievements

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

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