Pranav Maneriker

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Research Interests

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

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 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.
- 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 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

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.

- 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**) 2017

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

- 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

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

- BV Srinivasan, **P Maneriker**, N Modani, K Krishna, **Constructing content based on multi-sentence compression of source content**, US Patent 10,949,452. 2021

- 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

- BV Srinivasan, SK Saini, K Krishna, Anandhavelu N, T Goyal, **P Maneriker**, C Huesler, **Bundling Online Content Fragments For Presentation Based on Content-Specific Metrics and Inter-Content Constraints**, US Patent 10,891,667. 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, SDM '23, IEEE TBD

- 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.

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

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

REFERENCES

Available on request