Manan Suri

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University of Maryland, College Park

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Education

- **University of Maryland, College Park** 2024 - Present
  MS, PhD - Computer Science
  Advised by Prof. Dinesh Manocha
  GPA:4.0
- **Netaji Subhas University of Technology, New Delhi** 2020 - 2024
  Bachelor of Technology - Computer Science and Engineering
  CGPA: 8.99
- **K.R. Mangalam World School, New Delhi** 2016 - 2020
  Higher Secondary Education
  Grade 12 - 97.2%, Grade 10 - 96.6%

Select Publications

- **Follow the Flow: Fine-grained Flowchart Attribution with Neurosymbolic Agents**
  EMNLP 2025
  Manan Suri, Puneet Mathur, Nedim Lipka, Franck Dernoncourt, Ryan A Rossi, Vivek Gupta, Dinesh Manocha
- **ChartLens: Fine-grained Visual Attribution in Charts**
  ACL 2025
  Manan Suri, Puneet Mathur, Nedim Lipka, Franck Dernoncourt, Ryan A. Rossi, and Dinesh Manocha
- **VisDoM: Multi-Document QA with Visually Rich Elements Using Multimodal Retrieval-Augmented Generation**
  NAACL 2025
  Manan Suri, Puneet Mathur, Franck Dernoncourt, Kanika Goswami, Ryan A Rossi, Dinesh Manocha
- **DocEdit-v2: Document Structure Editing Via Multimodal LLM Grounding**
  EMNLP 2024
  Manan Suri, Puneet Mathur, Franck Dernoncourt, Rajiv Jain, Vlad I Morariu, Ramit Sawhney, Preslav Nakov, Dinesh Manocha
- **CoSyn: Detecting Implicit Hate Speech in Online Conversations Using a Context Synergized Hyperbolic Network**
  EMNLP 2023
  Sreyan Ghosh*, Manan Suri*, Purva Chiniya*, Utkarsh Tyagi*, Sonal Kumar*, Dinesh Manocha
- **ACLM: Selective-Denoising based Generative Data Augmentation for Low-Resource Complex NER**
  ACL 2023
  Sreyan Ghosh, Utkarsh Tyagi, Manan Suri, Sonal Kumar, Ramaneswaran S, and Dinesh Manocha

Experience

- **Amazon, Santa Clara** June 2025 - Aug 2025
  Applied Science Intern
  - Developed context augmentation techniques to enhance task planning, resolve user input ambiguity, and provide relevant hints for downstream LLM-based software agents, achieving up to 12% improvements on SWE-Bench under similar conditions
  - Experimented with different open and closed source models for benchmarking, evaluating various agent architectures for agentic coding tasks to identify optimal model-architecture combinations for software engineering workflows
- **University of Maryland, College Park** Aug 2024 - June 2025
  Graduate Research Assistant
  - Analyzing algorithmic behaviors across various social media platforms to assess their impact on information reach and engagement in high-stakes crisis situations, contributing to the creation of trustworthy AI frameworks.
  - Collaborating with interdisciplinary teams, including Dr. Giovanni Luca Ciampaglia (UMD), Dr. David Broniatowski (GWU), and Dr. Erica Gralla (GWU), as a part of a TRAILS (Trustworthy AI in Law and Society) Seed project.
- **University of Warwick, United Kingdom** June 2023 - Aug 2023
  Data Science for Social Good Fellow
  - Constructed advanced, replicable pipelines for training, experimentation, and inference, leveraging Deep Learning to devise an innovative system that identifies and mitigates greenwashing in multi-modal social media content, spanning text, video, and image elements.
  - Worked in close collaboration with the Algorithmic Transparency Institute and environmental specialists to understand project needs. Developed tailored strategies to promote the use of ethical and transparent algorithms crucial in combating greenwashing and supporting sustainability in the digital content space.

Projects

- **Nanovector — Lightweight Text-to-Vector Database**: Machine Learning, Embeddings, Database Systems, Docker
  - Developing an open-source, lightweight database designed for efficient text-to-vector storage and retrieval, optimized for seamless integration and deployment.
  - Implemented direct text-to-vector pipeline allowing streamlined conversion of text data to vector embeddings within the database, using Sentence Transformers for high-quality embeddings and PCA for dimensionality reduction.
  - Designed for versatility, Nanovector supports a wide range of applications including embeddings and feature storage, with deployment ease through Docker for containerized environments.
  - Tech Stack - *Python, NumPy, Docker, Sentence Transformers* (September '24)

- **Asatya — Fake News Browser Extension**: Machine Learning, NLP, Web Scraping, Web Development
  - Developed a robust suite of machine learning-based tools aimed at combating the spread of fake news.
  - Designed the system to generate key metrics for any given news item, including measures of reliability, biasness, and objectivity. Additionally, implemented functionality to provide users with a concise summary of the news report and recommendations for similar yet reliable news headlines.
  - Tech Stack - *Flask, beautifulsoup4, pandas, tinydb, scikitlearn, joblib, react* (January '22)

- **Article — Comprehensive NLP Suite for Web Article Analysis**: Machine Learning, NLP, Web Scraping, LLM Deployment
  - Developed an innovative tool for extracting and structuring information from web articles, utilizing heuristic techniques and a wide array of NLP techniques such as Entity Recognition, N-gram analysis, keyword extraction, extractive summarization and text classification for comprehensive article analysis.
  - Incorporated advanced features like similar data mining, media bias detection, factuality checks and querying with Language representation models, providing a powerful content verification apparatus and enabling a broad range of media research applications.
  - Tech Stack - *Flask, beautifulsoup4, pandas, RAKE, YAKE, scikitlearn, joblib], OpenAI* (February'23)

Technical Skills

- **Languages**: Python, Java, C++, C, Javascript,HTML/CSS, SQL
- **Skills**: Machine Learning, Deep Learning, Natural Language Processing, Full Stack Web Development, Database Management
- **Tools & Technologies**: Scikitlearn, Pytorch, NumPy, Pandas, Flask, Node, React, Express, MongoDB, MySQL

Professional Activities

- **Invited Talk, Adobe San Jose** (28 Sept 2025) – "Fine-grained Visual Attribution".
- **Reviewer Service** – **AAAI 2026**, **ACL 2025**, **NAACL 2025**, **ICASSP 2025**, **EMNLP 2025**, **EMNLP 2024**.

Awards and Achievements

- Awarded Dean's Fellowship at the University of Maryland, College Park (2025-26).
- **Adobe Career Academy** - Selected to be a part of the first Adobe Career Academy cohort by Adobe India.
- **TechForGood Hackathon** - Won **First Prize** amongst 3000 participants from over 36 countries.
- **KVPY** - Secured **All India Rank 159** amongst 150k students and was offered the fellowship by IISc Bangalore
- **JEE Advanced** - Secured **All India Rank 4290** among 150k students qualified from 1.5 million initial applicants
- **JEE Mains** - Secured **All India Rank 7172** among 1.5 million students with a percentile of 99.36.
- **Student of the Year, 2019** - Awarded by the **Times of India**, India's leading newspaper publication.
- **Chairman's Medal** for exemplary performance in academics throughout grades VI-XII by K.R. Mangalam, World School.