

Jinendra Malekar

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EDUCATION

University of South Carolina College of Engineering and Computing

Columbia, SC

Master of Science: Computer Science

Expected May 2025

Major GPA: 3.87/4.0

Relevant Coursework: Analysis of Algorithmic, Edge and Neuromorphic Computing, Advanced Topics in Neuro-symbolic AI, Compiler Construction, Network Systems Security

TECHNICAL SKILLS

Languages/Frameworks: Pytorch, Tensorflow, JavaScript, C++, Python, HTML, CSS, React.js, Next.js, React Native, Node.js, Django, Flask, Express.js

Others: MongoDB, AWS, SQL, Git, Nginx, Firebase, Postman, Bootstrap, RESTful API, FAST API

PROFESSIONAL EXPERIENCE

University of South Carolina

Columbia, SC

Graduate Research Assistant

August 2023 - Present

- Engaged in the development of compact and personalized Large Language Models, utilizing state-of-the-art techniques, including fine-tuning and implementation of vector databases using RAG
- Designed and implemented a comprehensive full-stack application to create and merge diverse knowledge graphs, facilitating the integration of various knowledge bases on the internet and supporting knowledge discovery
- Created a web-based real-time application for monitoring and annotating high-risk suicidality-related posts on Reddit, achieving a reduction in evaluation time and an accuracy rate exceeding **85%** for annotating posts using language models

Research Specialist

August 2022 – August 2023

- Developed a mobile app for **Prisma Health**, enhancing monitoring for **10** type-1 diabetic patients with an intuitive interface, achieving an increase in patient engagement for daily carbohydrate tracking of patients for insulin management
- Collaborated on a customized dashboard with **BMW** Greenville/Fraunhofer material planners, improving data accessibility and efficiency, and migrated the backend database from MongoDB to Redis achieving a **30%** performance boost
- Focused on disaster management, built an interactive dashboard that improved shelter and medical assistance access during calamities utilizing real-time Twitter data
- Devoted **900+** hours researching Language Models integration with mental health, working on impactful research projects that resulted in the publication of two papers in prestigious AI conferences

PROJECTS

BMW Dashboard for Greenville/Fraunhofer | [Demo](#)

AWS | React.js | MongoDB | Fast API

- Worked with BMW Greenville/Fraunhofer material planners to create a tailored dashboard
- Co-led the development of the dashboard's React.js front end and coded a robust Python-based backend for enhanced performance and efficiency

Suicidality Diagnosis of Online Reddit Data | [Demo](#)

Pytorch | Flask | Reactjs

- Built a web application using advanced natural language processing having an accuracy of **85%** to track suicidal posts on Reddit
- Improved algorithm efficiency, improving the prediction of suicidality-related concepts in text, and reduced system latency to an impressive 0.8 seconds per sentence for real-time monitoring

Prisma Health Mdiabetes App | [Demo](#)

React native | MongoDB | Node.js | Flask

- Developed a thorough mobile application for **Prisma Health** to assist in monitoring individuals with type-1 diabetes
- Designed an intuitive interface enabling patients to effectively manage insulin levels by tracking daily carbohydrate intake, highlighting expertise in healthcare data management and patient support solutions

Disaster Record | [Demo](#)

Python | React | Flask | Tensorflow

- Emphasized disaster management by creating an interactive dashboard for crucial information during natural calamities
- Created a tool for shelter location and medical aid during disasters, for improvement in response efficiency

PUBLICATIONS

- Kaushik Roy, Yuxin Zi, Manas Gaur, Jinendra Malekar, Qi Zhang, Vignesh Narayanan, Amit Sheth, “Process Knowledge-infused Learning for Clinician-friendly Explanations” June 2023. AAAI Second Symposium on Human Partnership with Medical Artificial Intelligence [\[paper\]](#)
- K. Roy, V. Khandelwal, R. Goswami, N. Dolbir, J. Malekar, and A. Sheth, “Demo Alleviate: Demonstrating Artificial Intelligence Enabled Virtual Assistance for Telehealth: The Mental Health Case” Oct 2022, Accessed on 12/09/2022. [Online] Proceedings of the AAAI Conference on Artificial Intelligence [\[paper\]](#) [\[demo\]](#)