# Soorya Ram Shimgekar

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## Education

- **University of Illinois at Urbana Champaign** Urbana-Champaign, United States of America
  PhD - Computer Science; GPA: 4.0/4.0 20 Aug 2024*
  ***Courses:*** *Text Mining with LLM*
- **University of Illinois at Urbana Champaign** Urbana-Champaign, United States of America
  Master's - Computer Science; GPA: 4.0/4.0 20 Aug 2022 – 17 Dec 2023
  ***Courses:*** *Generative AI, Large-Language Models, Natural Language Processing, Data Mining, Artificial Intelligence*

## Skills Summary

- **Languages**: Python, PHP, Matlab, R, HTML, CSS, JavaScript, SQL, C, C++, Java
- **Frameworks**: Keras, Scikit-Learn, OpenCV, NLTK, TensorFlow, PyTorch, Django, Flask, Selenium, BeautifulSoup, Numpy, vLLM, TensorRT-LLM
- **Tools**: GIT, Docker, MySQL, SQLite, AWS, Threads, Sockets, NoSQL, WebGL, Three.js, Hadoop

## Experience

- **Aalto University – Research Scholar** May 2026 – Aug 2026
  - Developed MEM-STRESS, a **hierarchical memory** framework integrating **Oura** behavioral signals with **conversational** AI for personalized **stress** management.
  - Evaluated in a controlled user study (N=40), demonstrating 45% improvement in personalization, 32% increase in behavioral grounding, and 50% deeper user engagement compared with a baseline chatbot.
- **Nimblemind inc. – Software Engineer – AI/ML** Jun 2025*
  - Built **multi-agent** frameworks to automate **healthcare** ML pipeline (ingestion, feature extraction, model selection).
  - Built ***NimbleLabs website*** enabling users to upload data, supporting documents and a prompt for automated model selection, feature engineering, preprocessing, and fine-tuning.
  - Developed a **Vision-Language Model**, using MedGemma, to **auto-route medical image data to best-fit models** from a model set.
- **JP Morgan & Chase – Software Engineer - AI/ML** Jun 2023 – Aug 2023
  - **Enhanced the credit-card risk models** by dividing bad customer classes based on how many months credit bill was not paid
  - Focused on **explainable Machine Learning**, using techniques like SHAP and Gain without compromises on performance
  - Developed a new pipeline using SHAP and Gain **feature selection** metrics for new classes, achieving an 8-10% accuracy boost
  - Contributed to the XGBoost GitHub source code to incorporate **multiclass monotonicity constraints** for sub-models of each class
- **Relatas Sales AI – Software Engineer - AI/ML** Oct 2021 - Mar 2022
  - Developed full-stack chrome extension for **personality insights from LinkedIn and Twitter** using trustworthy AI
  - Researched various feature engineering methods and **proposed an ensemble model** using LSTM and XGBoost, with 83% accuracy
  - The software is used as a **CRM** tool now at Relatas's Client, **Salesforce**
- **Centre of Excellence for Autonomous Vehicles – Research Engineer AI/ML** Dec 2019 - Dec 2022
  - Developed **Level-4 Autonomous Ground Vehicles** (AGV) for Indian roads, using IMU, Velodyne LIDAR, Depth Camera, RADAR
- **ISRO - Indian Space Research Organization – Research Engineer AI/ML** Jun 2021 - Aug 2021
  - Proposed an integrated GUI **application** for rendering and processing the Indian agriculture **GeoTiff satellite** using Images processing techniques like, Apodization, Wavelet transform De-speckling, and ocean normalization

## Publications

- Risk and Refusal: Mechanisms of LLM Responses to Suicidal Ideation (ARXIV) ***Link***
- AI Psychosis: Does Conversational AI Amplify Delusion-Related Language? (EMNLP 2026) ***Link***
- Toxic HallucinAItions: Perturbing Prompts and Tracing LLM Circuits (ARXIV) ***Link***
- Modeling Narrative Archetypes in Conspiratorial Narratives: Insights from Singapore-Based Telegram Groups (ACL NLP4PI) ***Link***
- Detecting Early and Implicit Suicidal Ideation via Longitudinal and Information Environment Signals on Social Media (WebSci 2026) ***Link***
- Route-and-Execute: Auditable Model-Card Matching and Specialty-Level Deployment (ML4H 2025) ***Link***
- NimbleLabs: Accelerating Healthcare AI Development Through Agentic AI (BigData 2025) ***Link***
- Agentic AI framework for End-to-End Medical Data Inference (BIBM 2025) ***Link***
- Interpersonal Theory of Suicide as a Lens to Examine Suicidal Ideation in Online Spaces (JMIR 2025) ***Link***
- Intelligent Advice System for Human Drivers to Prevent Overtaking Accidents: Expert Systems with Applications (Apr 2022) ***Link***
- An insight into crash avoidance and overtaking advice systems for Autonomous Vehicles: A review, challenges, and solutions: Engineering applications of Artificial Intelligence (Jul 2021) ***Link***

## Projects

- **Taxonomy and Pre-trained Language Model based Generative Retrieval:** Enhance Generative information extraction algorithm by leveraging corpus-level structural information to generate more accurate and understandable document IDs (Aug 2024 – Dec 2024)
- **Privacy Preserving AI**: Proposed facial classification model security with feature mixing, Differential Privacy Gradient Descent, and Homomorphic Encryption, maintaining 85% accuracy and countering model inversion risks. (Sept 2023 – Dec 2023)

## Honors and Awards

- Best paper award in COLM DAIH conference July 2026
- Top 4 papers in ACM-WEBSCI conference May 2026
- Top 10 in IIT-Madras GDC I-NCUBATE Jan 2022
- Ranked 3 in Siemens ITTCP challenge Feb 2021
- Top 50 from 39,000 participants in ZS Prize Hackathon Jan 2021
- Ranked 5 in Philips Healthcare Hackathon Dec 2020