

# Pragati Meshram

NATURAL LANGUAGE PROCESSING · COMPUTER VISION · MACHINE LEARNING RESEARCHER

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## Education

### University of Illinois, Urbana-Champaign (UIUC)

Urbana-Champaign, USA

GRADUATE STUDENT IN ELECTRICAL AND COMPUTER ENGINEERING

Jan 2024 - Present

- **Key Courses:** Deep Generative Models, Adv topics in NLP, Computer Vision, Optimization, Computational Inference, Deep Learning for CV

### Indian Institute of Technology Bombay (IIT Bombay)

Mumbai, India

DUAL DEGREE (M. TECH. + B. TECH.) IN ELECTRICAL ENGINEERING

Jul 2017 - Jun 2022

## Key Publications

NeurIPS	<b>Diffusion Model attribution via Spectral Geometry Signatures *</b> Neural Information Processing Systems (NeurIPS), Under Review	2026
ICML	<b>DAWN: Dual Space Regeneration Watermarking Attack *</b> International Conference on Machine Learning (ICML)	2026
Arxiv	<b>ElectroVizQA: How well do Multi-modal LLMs perform in Electronics Visual Question Answering? *</b> <a href="https://arxiv.org/abs/2412.00102">https://arxiv.org/abs/2412.00102</a>	2024
ISBI	<b>Sample Specific Generalized Cross Entropy for Robust Histology Image Classification</b> IEEE International Symposium on Biomedical Imaging (ISBI)	2021
ECCV	<b>Multi-source open-set deep adversarial domain adaptation</b> European Conference on Computer Vision (ECCV)	2020

\* first author publications

## Industrial Experience

### Uber

San Francisco, US

PHD RESEARCH INTERN

May 2025 - Aug 2025

- Developed an LLM-based real-time fraud detection model to identify anomalous earner behavior
- Built scalable methods to detect edge cases and inconsistencies in large-scale trip and driver data

SOFTWARE ENGINEER

Aug 2022 - Dec 2023

- Launched Micro-Mobility service across 20+ cities by integrating Tembici vendor services and unifying trip flows
- Built engagement analytics, enhanced receipt access, and mentored a new engineer for faster onboarding

### Mercedes-Benz, R&D India

Bangalore, India

COMPUTER VISION INTERN | GUIDE: MEGH SHUKLA

Jul 2021 - Sep 2021

- Worked on Domain Adaptation for Few-shot Action Recognition, focusing on recognizing action classes with limited source samples using a Prototype-centered Attentive Learning (PAL) model

### AWL Inc. | Face Pose Synthesis

Sapporo, Japan

RESEARCH INTERN | GUIDE: SRIDHAR BABU

Jul 2020 - Aug 2020

- Mitigated training data scarcity in masked face recognition by designing a multi-view image generation pipeline for masked and unmasked faces
- Developed a face pose synthesis system using advanced GANs, enhancing the robustness of mask-wearing facial image recognition

## Research Internships and Projects

### Task-Conditioned Semantic Relevance and Robustness in GUI Agents | UIUC

Urbana-Champaign, USA

RESEARCH | GUIDE: PROF. VARUN CHANDRASEKARAN

Jan 2026 - Present

- Working on a framework that trains agents to reason about semantic relevance of interface elements to be robust under realistic disturbances

### Vision-Language Model Performance Enhancement | UIUC

Urbana-Champaign, USA

RESEARCH | GUIDE: PROF. HENG JI

Aug 2024 - Dec 2024

- Enhancing VLM performance by employing ensemble learning, visual grounding techniques to improve feature extraction

### Packet Routing | Aalborg University

Aalborg, Denmark

RESEARCH INTERN | GUIDE: PROF. BEATRIZ SORET

May 2020 - Jul 2020

- Simulated and analyzed performance of packet routing in satellite constellations using Q-Learning and Dijkstra's Algorithm

## Skills and Responsibilities

**Libraries** PyTorch • TensorFlow • Tensorboard • Keras • NLTK • OpenAI • OpenCV • Pandas

**Languages** Python • C • C++ • Assembly • Swift • GO •  $\LaTeX$  | **Tools** Docker • Git • MATLAB • SFTP • SSH

**Responsibilities** Research Assistant • Engineer Mentor at Uber (2023)