

# Saswat Subhajyoti Mallick

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## WORK EXPERIENCE

### ZEOTAP GMBH | DATA SCIENTIST

Bangalore, India | July 2021 – July 2024

- Implemented a lookalike recommender system to rank users based on their browsing preferences and web footprint. Landed Google as partners through the high quality of impressions and improved YoY revenue by **28%**.
- Developed an in-house RAG from scratch that scaled to petabyte scale entries in real-time.
- Developed a conversational interface for our org that simplified the complex internal workflows. Powered it through a swarm of MRKL experts communicating via consensus. Improved customer retention by **7%**.

## RESEARCH EXPERIENCE

### HUMAN SENSING LAB | RESEARCHER

CMU, Pittsburgh | March 2024 – Present

- Working on developing dynamic, human body reconstruction with high rendering quality for streaming applications.
- Developed solutions to make 3D reconstruction algorithms controllable, deterministic and fast.

### VISION AND AI LAB | RESEARCHER

IISc, Bangalore | Feb 2023 - Feb 2024

- Worked on unsupervised bias mitigation in foundational models using low-compute and no extra annotations.
- Developed training-free methods for diagnosing and debiasing large diffusion models against societal bias.

### VISION, LANGUAGE AND LEARNING GROUP | RESEARCHER

IIT, Jodhpur | July 2022 – Feb 2023

- Worked on developing scalable, few-shot object detection methods on videos.
- Collaborated with a healthcare startup to implement high-precision table understanding for medical images.

## INTERNSHIP EXPERIENCE

- Built a segmentation pipeline for **Samsung** with quantisation-aware training for alpha matting on mobile devices.
- Developed an intelligent bot for **Oyo Rooms** that could understand logs, perform RCA for faults, and release upgrades to patch them. Brought down RCA time by **200%** and improved site reliability by **0.4%**.
- Worked on graph-based process schedulers to minimise latency on **Nvidia's** Triton Inference server.
- Built a production-grade model versioning and monitoring dashboard POC using MLFlow for **Weights and Biases**.

## EDUCATION

### Master of Science in Robotics (MSR)

Pittsburgh, USA | Jan 2025

CARNEGIE MELLON UNIVERSITY

### BTech. Electronics and Communication Engineering

Chennai, India | July 2021

VELLORE INSTITUTE OF TECHNOLOGY

## PUBLICATIONS

- Echoes of the Coliseum: Towards 3D Live streaming of Sports Events (Accepted in SIGGRAPH'25 Journal Track)
- CARL: Cost-optimized Online Container Placement with Adversarial Reinforcement Learning (Accepted in TCC'25)
- Taming 3dgs: High-quality radiance fields with limited resources (Accepted in SIGGRAPH-Asia'24)
- Mitigating Biases in Blackbox Feature Extractors for Image Classification Tasks (Accepted in NeurIPS'24)
- Balancing Act: Distribution-Guided Debiasing in Diffusion Models (Accepted in CVPR'24)
- QDETRv: Query-Guided DETR for One-Shot Object Localization in Videos (Accepted in AAAI'24)

## MISCELLANEOUS

- Experienced in Python, C/C++/CUDA and Jax. Developed streaming pipelines using PySpark, Kafka and SQL.
- Skilled in DevOps practices and tools (AWS, Kubernetes, Docker, Terraform, Prometheus, ELK, Jenkins, Ansible).
- Awarded certificate of excellence at Samsung and got appraised by the CEO of Google.
- Participated in several hackathons. Bagged the first prize in four college-level and two national-level events.