Anisha Jain

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EDUCATION

Carnegie Mellon University – Robotics Institute, School of Computer Science *Pittsburgh, PA*
*Master of Science in Computer Vision (MSCV) - GPA **4.26**/4.0* *Dec 2024*
Relevant Coursework: 3D Vision, Learning-based Image Synthesis, Reinforcement Learning
Visual Learning and Recognition

National Institute of Technology (NIT), Warangal *Warangal, India*
*Bachelor of Technology, Computer Science and Engineering - GPA **9.06**/10* *May 2021*
Institute Merit Scholarship Recipient (for all academic years)

SKILLS

Programming Languages – Python, C, C++, C#, Java
Frameworks – SQL, Numpy, Pandas, PyTorch, TensorFlow, OpenCV, Pillow, Scikit-Learn, .NET, Spark, Apache PySpark
Tools – CUDA, Git, Docker, Linux, Blender, Android, AWS

EXPERIENCE

Zoox *Foster City, CA*
Computer Vision Intern *May 2024 - Aug 2024*
- Enhance LiDAR geometric data with semantics from vision to build robust and reliable maps, hedging against world changes
- Decreased localizer failures, resulting in fewer NoGo trajectories in production *[Patent pending]*

Meta Reality Labs *Pittsburgh, PA*
Research Collaborator (Capstone Project) [website] *Dec 2023 - Present*
(Advisor: Prof Laszlo A. Jeni, CUBE Lab & Michael Zollhoefer, Meta Reality Labs)
- *Online reconstruction* of *dynamic non-rigid* scenes from monocular RGB-D videos using *3D Gaussian Splatting*
- Implemented a novel deformation module to disentangle rigid and non-rigid motion for progressive reconstruction

Microsoft (R&D) Pvt Ltd. *Hyderabad, India*
Software Engineer *Jun 2021 - Jul 2023*
- Slashed ML model iteration for spam/phish detection from a *month to under 2 hours*, boosting threat response
- Streamlined feature extraction, optimizing analysis of *10 billion emails daily* for a more efficient email filter
- Innovated end-to-end process for assessing novel features' impact on model performance in *Apache Spark*

Google *Remote*
Software Product Sprint *Jul 2020 - Sep 2020*
- Collaborated with a team of 4 to design, develop, and launch a movie and book recommendation engine
- Applied a *matrix factorization model* with collaborative filtering and content embedding for effective training

Indian Institute of Science - Computational Intelligence Lab *Bengaluru, India*
Research Intern *May 2018 - Jun 2019*
(Advisor: Dr Amarjot Singh, Founder & CEO, SkyLark Labs, & Dr Onkar, IISc)
- Achieved an *87.8% accuracy* in *detecting suspicious activities* by implementing SH-PAF Network to estimate pose for humans, whose output is further fed to 3D ResNext to capture the motion of an individual
- *Addressed critical research gap* by curating a dataset of 2400+ videos of individuals in loosely fitted

PUBLICATIONS

A. Jain, "*One-Shot Learning Meets Depth Diffusion in Multi-Object Videos*", In Proceedings of the 2024 International Conference on Computer Vision (ICCV) Workshop, Milan, Italy (Oral Presentation)

A. Singh*, A. Kumar* and **A. Jain***, "*Bayesian Gait-Based Gender Identification (BGGI) Network on Individuals Wearing Loosely Fitted Clothing",* In Proceedings of the 2019 International Conference on Computer Vision (ICCV) Workshop, Seoul, Korea

PROJECTS

GaussCraft: Language Driven Segmentation and Editing in 3D Using Gaussian Splatting [poster] *Feb 2024*
- Distilled high-quality object-centric vision-language features into 3D Gaussians to model scene appearance
- Empowers users to perform scene decomposition and appearance editing using text queries

GIF-Tune: One-Shot Tuning for Continuous Text-to-GIF Synthesis [website] *Feb 2024*
- One-shot learning using inflated Text-2-Image Diffusion models ensuring temporal continuity and depth consistency
- Utilized spatial transformer architecture to facilitate continuous motion learning within the model

Unsupervised Reinforcement Learning across multiple environments [arxiv] *Oct 2023*
- Boosted exploration efficiency by 40% by integrating curiosity-driven exploration and visitation entropy objectives, enhancing RL agent versatility