Aniket Gupta

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Education

Northeastern University Boston, MA, U.S.

- *Ph.D. Student, Khoury College of Computer Sciences* *May 2023 - Present*
  - *Advisors: Huaizu Jiang and Hanumant Singh*
- *Master's of Science in Robotics* *Sep. 2021 - April 2023*

Delhi Technological University New Delhi, India

- *Bachelor of Electrical Engineering* *Sep. 2017 - June. 2021*

Work Experience

Virtual Lighting Research Group, Signify Burlington, MA, U.S.
Research Intern *May 2022 - Sep. 2022*
Worked with Dr. Jin Yu, Dr. Victor Robles, and Dr. Sara Shishehchi

- Developed a GAN architecture to generate synthetic bedroom images with lights on/off using feature disentanglement.
- Developed a Style transfer based method for realistic insertion of objects into images for given lighting conditions.

Unmanned Aerial Systems Research Team, Delhi Technological University Delhi, India
Team Captain *Mar. 2021 - Aug. 2021*
Collaborated with Prof. N S Raghava and Indian Air Force researchers on autonomous swarm systems

- Led cross-functional team of 65 engineers across software, avionics, and airframe divisions through complete autonomous UAV swarm development lifecycle, securing $1.5M in project funding.
- Architected and deployed motion planning algorithms with collision and deadlock avoidance for 25-UAV swarm architecture on Ardupilot and ROS, achieving 300+ hours of successful field validation.
- Integrated advanced navigation systems including dynamic obstacle avoidance, visual-inertial odometry for GPS-denied environments, and precision payload delivery capabilities.
- Coordinated hardware-software integration across multidisciplinary teams, managing project timeline, resource allocation, and stakeholder communication with military and academic partners.

Publications

Google Scholar

- **Aniket Gupta**, Hanhui Wang, Charles Saunders, Aruni Roy Chaudhary, Hanumant Singh, Huaizu Jiang.
  SNAP: Towards Segmenting Anything in Any Point Cloud.
  3DV 2026
- **Aniket Gupta***, Zhiyong Zhang*, Huaizu Jiang, Hanumant Singh.
  NeuFlow V2 - High-efficiency optical flow estimation on edge devices.
  IROS 2025
- **Aniket Gupta**, Dennis Giaya, Vishnu Rohit Annadanam, Mithun Diddi, Huaizu Jiang, Hanumant Singh.
  A System for Multi-View Mapping of Dynamic Scenes Using Time-Synchronized UAVs.
  IROS 2025

- Colin Keil, **Aniket Gupta**, Pushyami Kaveti, Hanumant Singh.
  Towards long term SLAM on thermal imagery.
  IROS 2024
- **Aniket Gupta**, Yiming Xie, Hanumant Singh, Huaizu Jiang.
  Direct Superpoints Matching for Fast and Robust Point Cloud Registration.
- Pushyami Kaveti, **Aniket Gupta**, Dennis Giaya, Madeline Karp, Colin Keil, Jagatpreet Nir, Zhiyong Zhang, Hanumant Singh
  Challenges of Indoor SLAM: A multi-modal multi-floor dataset for SLAM evaluation.
  IEEE International Conference on Automation Science and Engineering (CASE)
- Xiangyu Bai, Yedi Luo, Le Jiang, **Aniket Gupta**, Pushyami Kaveti, Hanumant Singh, Sarah Ostadabbas
  Bridging the Domain Gap between Synthetic and Real-World Data for Autonomous Driving.
  ACM Journal on Autonomous Transportation Systems, 2023
- Xiangyu Bai, Yedi Luo, Le Jiang, **Aniket Gupta**, Pushyami Kaveti, Hanumant Singh, Sarah Ostadabbas
  An Evaluation Platform to Scope Performance of Synthetic Environments in Autonomous Ground Vehicles Simulation
  IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), 2023
- Yedi Luo, Xiangyu Bai, Le Jiang, **Aniket Gupta**, Eric Mortin, Hanumant Singh, Sarah Ostadabbas
  Temporal-controlled Frame Swap for Generating High-Fidelity Stereo Driving Data for Autonomy Analysis
  British Machine Vision Conference (BMVC), 2023

Note: * above denotes equal contribution

Teaching Experience

- Teaching assistant of CS 7150, Computer Vision, Northeastern University *Fall 2024*
- Teaching assistant of CS 5335, Computer Vision, Northeastern University *Spring 2022*

Talks

- Engineering Robust Aerial Swarms, Asia-Oceania Systems Engineering Conference, 2020

Skills

Programming Languages: C++, Python, LaTeX
Technical: Pytorch, Git, Linux, ROS, Gazebo, Docker, System Design

Honors and Awards

- **Winner** – Swarm Architecture, Indian Air Force Mehar Baba prize competition.
- **1st Position**, Formation Flying at Drone Olympics 2019.
- **2nd Position**, Technical Journal Paper (AUVSI SUAS).
- **1st Position**, SAE India Southern Section AeroDesign Challenge, 2018