Pranay Lendave

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Webpage | Google Scholar | LinkedIn | GitHub

Research Interest

2D/3D computer vision, multi-modal learning, neural rendering, and LLM agents.

Education

KJ Somaiya College of Engineering, Mumbai, India 8.86/10
Bachelor of Technology in Electronics Engineering *Aug. 2019 - May 2023*

SIES College of Arts Science and Commerce, Mumbai, India 90.15%
Higher Secondary Certificate(12th Science) *Jun. 2018 - May 2019*

Experience

Business Technology Analyst, Deloitte USI *Oct. 2023 – Present*
Lead QA overseeing the development of autonomous customer query resolution systems, including voice bots and chatbots, leveraging AWS, Genesys, and Salesforce solutions.

Undergraduate Researcher, IIIT Sricity *Jan. 2023 - Jun. 2023*
Worked on 3D object detection for autonomous driving. Evaluated state-of-the-art models on datasets like KITTI, WAYMO, and nuScenes.

Publications

- **MT3DNet: Multi-Task learning Network for 3D Surgical Scene Reconstruction** (Link)
  Parab, M., Lendave, P., Kim, J., Nguyen, T.Q.D. and Ingle, P., 2024. MT3DNet: Multi-Task learning Network for 3D Surgical Scene Reconstruction. arXiv preprint arXiv:2412.03928.
- **A Comprehensive Study on LLM Agent Challenges** (Link)
  Accepted at AAAI 2024 Spring Symposium on User-Aligned Assessment of Adaptive AI Systems.
- **A Novel Approach to Weed Detection Using Segmentation and Image Processing Techniques** (Link)
  S. Charania, P. Lendave, et al., 2023 World Conference on Communication & Computing (WCONF), Raipur, India.

Academic Projects

- **Text to Video Synopsis** (Link)**:** Developed an advanced video analysis tool that uses text prompts as input. The system consists of state-of-the-art computer vision models (OWL-ViT/Florence 2 for detection, SAM for segmentation) and video synopsis algorithm for surveillance, content analysis, and object tracking.
- **Smart Factory Using AI** (Link)**:** Designed a smart conveyor belt system utilizing YOLOv5 and ESP32 microcontrollers for wireless detection and sorting of honey jars based on condition, connected via a local Wi-Fi network.
- **GPS Tracker and SOS Notifier** (Link)**:**
  Developed an IoT-based system using a WiFi-enabled microcontroller with sensors (MPU6050, NEO-M8N) for tilt, motion, and positioning monitoring. Integrated ThingESP and Twilio platforms for real-time communication with WhatsApp users, enabling emergency notifications and data display on an OLED screen.

Roles and Responsibilities

Technical Head, Electronics Engineering Students Association *Jul. 2021 - Apr. 2022*
Organized and conducted workshops and seminars on emerging technologies for fellow students.

Head of Electronics Dept., The Marine Robotics Team (TMRT) *Jul. 2021 - May. 2022*
Led a team to build a navigation system for an autonomous underwater vehicle.

Certifications and Technical Skills

Certifications: Deep Learning for Computer Vision *(IIT Kharagpur, Jan. 2023 - Apr. 2023)*, Deep Learning *(IIT Madras, Jan. 2023 - Apr. 2023)*, Deep Learning Specialization *(deeplearning.ai, Oct. 2022 - Dec. 2022)*

Programming: Python, PyTorch, Java, C, SQL, MATLAB, LaTeX

Hardware: Arduino, Raspberry Pi, ESP32, Pixhawk