Srinath Tankasala

Contact Information

Srinath Tankasala,
Ph.D. student
University of Texas at Austin

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Education

Ph.D. specializing in Robotics and AI
University of Texas at Austin, 3.92/4.0 — **Aug 2019 – Present**

Master of Science
Purdue University, 3.75/4.0 — **Aug 2015 – Aug 2017**

Bachelor of Technology (Honours)
Indian Institute of Technology Madras, 9.05/10.0 — **Jul 2011 – Jul 2015**

Internships

AWS AI, Santa Clara, CA
Applied Scientist II Intern — May 2023 - Aug 2023

- LLM rescoring for ASR tasks
  - Perform ASR error correction along with speaker identification by parameter efficient fine-tuning of LLMs

Amazon Alexa AI, Seattle, WA
Applied Scientist II Intern — May 2022 - Aug 2022

- Graph based rescoring for ASR
  - Worked with ASR team on a novel graph based hypotheses rescoring approach for ASR
  - ICASSP 2023 paper from internship work was recognized as top 3% of all papers in the conference.

Hover Inc., San Francisco, CA
Computer Vision Intern — May 2021 - Aug 2021

- Impose geometric constraints on the 3D reconstruction process to improve final model accuracy
  - Used PlaneRCNN to perform surface segmentation on captured images and impose planarity constraints
  - Tuned the Bundle Adjustment optimization to eliminate drift errors using these constraints

Work Experience

The MathWorks Inc., Natick, MA
Engineer in Engineering Development Group — Sep 2017 - Aug 2019

- Interfaced ROSOnWindows with MATLAB
  - Working with the Robotics Dev team, created a bridge server that allowed MATLAB to interface with Microsoft ROSOnWindows.

Academic Experience

- **Autonomous inspection and surveys using embodied agents** — Aug 2019 - Present
  PI: Dr. Mitch Pryor (advisor) and Dr. Roberto Martin Martin
  - Accelerating view planning for 3D reconstruction
    - Formulated an active vision planning algorithm for viewpoint selection to perform autonomous surveying
    - The algorithm reduced surveying time by 40% compared to traditional planners.
    - Used novel method to learn trajectory computation using transformer/performer models and reduced computation time of planner
    - Currently working on coupled navigation and information-gain (IG) based planner for visual SLAM.

Relevant Courses

- Robot Learning
- Estimation and control of ground vehicles
- Aerial robotics
- Advanced topics in Computer Vision
- Machine Learning
- Convex Optimization
- Deep learning seminar

Skills

C/C++, PyTorch, ROS, PX4, OpenCV

Select Publications

- S. Tankasala, L. Chen, A. Stolcke, A. Raju, Q. Deng, C. Chandak, A. Khare, R. Maas, and V. Ravichandran, Cross-utterance ASR rescoring with graph-based label propagation. *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP) (pp. 1-5) 2023*, arXiv:2303.15132
- S. Tankasala, M. Pryor, Accelerating Quadrotor Trajectory Generation using Transformers, *Learning for Dynamics and Control 2023*, arXiv:2303.15606
- S. Tankasala, C. Pehlivanturk, E. Bakolas, M. Pryor, Generating Smooth Time-Optimal Trajectories for Steering Drones, *European Control Conference 2022*, arXiv:2202.09392.
- S. Tankasala, C. Pehlivanturk, M. Pryor, Minimum time trajectory generation for surveying using UAVs, *International Conference on Umanned Aircraft Systems 2022*, arXiv:2202.11297

Awards

- ICASSP top 3% paper recognition 2023
- ASME Graduate scholarship 2022
- DAAD WISE scholarship 2014
- Kishore Vaigyanik Protsahan Yojana (KVPY), Government of India 2011