Sourya Kovvali

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Work eligibility - C permit

Education

ETH Zürich, Switzerland Sep 2019 - Aug 2022
MSc - Robotics, Systems & Control **5.58** / 6

Thesis - Ubiquitous Mapping and Localization on Low-Power Devices (Fixposition AG + CVG, ETH Zürich)
Architected and implemented visual localization pipeline tuned for VIO pipeline on low-power devices

Semester project - High-speed Mapping with DVS (Autonomous Systems Lab, ETH Zürich)
Designed algorithms to track and map vertical line features in environment using a Dynamic Vision Sensor

IIT Madras, India Aug 2014 - May 2018
BTech - Mechanical Engineering **9.51** / 10

Work Experience

Fixposition AG, Schlieren, Switzerland

Sensor Fusion Engineer Oct 2022 - Present
- Leading development of visual post-processing pipeline, with special focus on deep-learning front-ends
- Investigating deep matchers & image descriptors, registration strategies to boost mapping performance
- Streamlined developer tooling in performance analysis, visualization, code generation & packaging, CI/CD
- Built hardware and software for ground-truth testing rig to evaluate sensors against market competition

Data Analysis Intern Apr 2021 - Sep 2021
- Developed customer-facing dashboard to interactively visualize sensor logs, perform advanced analysis

Projects

AMZ Driverless - Autonomous Racing Team, Zürich, Switzerland Sep 2019 - Mar 2021
- Orchestrated development of sub-packages and deployment of autonomous driving stack on the racecar
- Developed tooling for CI, dataset management, ground-truth capture, and photorealistic simulation

Team Anveshak - Mars Rover Design, Chennai, India Feb 2016 - Jul 2018
- Headed overall mechanical design of the prototype, with focus on multi-task capable grasper system
- Competed in University Rover Challenge 2017, Utah, ranked 19 out of 82 teams globally on first attempt

Publications

[Conf. Paper] Govindan, N., Kovvali, S. S. V., Chandrasekaran, K., & Thondiyath, A. **GraspMan-A Novel Robotic Platform with Grasping, Manipulation, and Multimodal Locomotion Capability** - 2018 - IEEE International Conference on Robotics and Automation (ICRA) (pp. 7354-7359). IEEE

[Patent] Nagamanikandan Govindan, Sai Sourya Varenya Kovvali, Karthik Chandrasekaran, and Asokan Thondiyath **A versatile hybrid robotic system for multimodal locomotion and grasping** - 2018 - Patent no. 432862 (granted 2023), India

Skills

Technical - C++, Python, TypeScript, PyTorch, ROS1, SvelteKit
Languages - English (fluent), German (B1), Hindi (native)