Srikanth Malla

/srikanthmalla

CONTACT INFORMATION:

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EXPERIENCE:

Carnegie Mellon University

Visiting Scholar, Machine Learning Department   Katerina Fragkiadaki(May'17-Aug'17)

Simulataneous Localization and Mapping is very important domain for Unmanned Robots. Using low cost sensors like camera and IMU (Inertial Measurement Unit) performing egomotion of robot and 3D mapping of the environment with a Learning based approach is the objective.

Research Associate, Field Robotics Center   Sebastian Scherer (Sept15-April16)

Industrial Inspection (examining cracks in industrial boilers) takes lot of time and money. UAVs can cut down both of those factors effectively. For this application, I worked on system integration, controls and real time coverage planner to optimize flight time.

EDUCATION:

Worcester Polytechnic Institute   Jan 2017 - (Expected Dec 2018)
Master of Science in Robotics Engineering   GPA: 4.0/4.0
Vellore Institute of Technology, Vellore, India   July 2012 - May 2016
Master of Science in Robotics Engineering   GPA: 8.79/10
Udacity, Self Driving Car NanoDegree   July 2017 - Present
Deep Learning and Computer Vision

RELEVANT PROFICIENCY:

Software and Programming: C, C++, Python, MATLAB, ROS, OpenCV, PCL, OpenRave, TensorFlow, Keras, Multisim, Solid Works, CUDA, MoveIt, OpenAI, Gazebo, MuJoCo
Hardware: ATMega 328, MSP 430, 8051/52, Odroid U3, Udoo, Raspberry Pi, Pixhawk
Robots: Baxter, UAVs (custom built, DJI), Kuka Youbot, Turtle Bot

PROJECTS: http://srikanthmalla.com/projects.html

Learning from Demonstration (LfD) for Manipulation   https://goo.gl/c5RGUE

LfD is useful for robots to learn several tasks from humans. For Baxter robot to perform manipulation tasks, Hidden Markov Model is trained by extracting features from configuration space. Several demonstrations are collected using VICON motion capture and VR Headset.

Gesture Controlled Unmanned Aerial Vehicle (UAV)

Gesture control has a wide variety of applications in robotics. An Interface between ARDrone (UAV) and Sensors (Kinect, LEAP) is developed with ROS. Artificial Neural Network is trained to classify different gestures.

LEAP sensor: https://goo.gl/jI2MuZ   KINECT sensor:https://goo.gl/zEODg8

Inventory Management Robot   https://goo.gl/mmbx2V

Developed a mobile robot and equipped it with custom made 3DOF robotic arm. KINECT sensor was used for RGBD mapping and localization using RTABMap.

Person Following UAV   https://goo.gl/5SUABr

Built a quadrotor and automated it to follow GPS coordinates using onboard navigation system. Developed an Android Application to send the GPS co-ordinates to the Quadrotor.

Inertial Odometry using LSTM

Sudden rotations couldn't be captured by visual odometry (because of no correspondences in images), an extra sensor Inertial Measurement Unit (IMU) is used to capture that motion, this gives advantage of predicting better ego motion and could be fused with visual odometry.

PUBLICATION:

Vaegae Naveen,Venkata Lakshmi Narayana K, Srikanth Malla Development of an Intelligent Pressure Measuring Technique for Bellows using Radial Basis Function Neural Network Sensors and Actuators, A. Physical http://goo.gl/eC5X3z

Harjatin Singh Baweja, Tanvir Parhar, Srikanth Malla Gesture Control Interface Using Machine Learning Algorithms. International Journal of Advanced Research in Computer Science and Software Engineering (IJARCSSE),Volume. 5, Issue. 09 (2015) ISSN: 2277-128X. http://goo.gl/BxX6ZC

AWARDS AND ACHIEVEMENTS:

MHRD Scholarship, Central Govt of India   **Special Achiever Award**, VIT