Kautilya Chenna

Contact Information

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Research Interests

Robotics: Perception, Manipulation and Cognition; Machine Learning, Computer Vision.

Education

University of Utah, Salt Lake City, Utah
Master of Science in Robotics **August 2016 – present**

- Advisors: Dr. Tucker Hermans

Relevant Coursework

Probabilistic Modeling, 3D Computer Vision, Artificial Intelligence, Motion Planning, Machine Learning, Robotics and System Identification.

Publications

"Planning Multi-Fingered Grasps as Probabilistic Inference in a Learned Deep Network"; Qingkai Lu, **Kautilya Chenna**, Balakumar Sundaralingam, Tucker Hermans; *International Symposium on Robotics Research (ISRR),* 2017. [PDF]

Experience

Learning Lab for Manipulation Autonomy (LL4MA), University of Utah
Graduate Research Assistant **August 2016 – present**
Currently working under Dr. Tucker Hermans on developing a robust and fast collision detection algorithm using deep learning to detect robot collisions using pointcloud data.

NMCAD Lab, Indian Institute of Science
Project Assistant **January 2015 – July 2016**
Worked under Prof. Dineshkumar Harursampath on the project *"Design and Fabrication of a Conventional Flapping Wing Micro Aerial Vehicle."* We worked towards developing a platform for testing various wing designs, materials and mechanisms on the MAV.

Selected Projects

Semantic Segmentation of Images using Deep Learning **March 2018**

- Implemented several graphical models and a deep learning algorithm for pixel wise segmentation of images
- Achieved near state of the art performance with the deep learning algorithm (VGG16 + CRF).

Twitter Spam Detection **December 2017**

- Implemented a machine learning algorithm from scratch to predict if a twitter user's content is spam.
- Ranked 1st in kaggle in-class competition.

Video Action recognition using Deep Learning **October 2017**

- Implemented a Deep Neural Network using tensorflow to classify actions in scenes.
- Achieved performance comparable to the state of the art.

Baxter Grasping **January 2017**

- Developed a grasping pipeline to grasp objects on a table autonomously.
- Tools Used: PCL, ROS, Moveit, tensorflow

Skills

Languages: Python, MATLAB, C++, Java.

Tools: PCL (Pointcloud Library), ROS (Robot Operating System), OpenCV, Tensorflow, Blender, Keras.

Robots: KUKA LBR4, Rethink Robotics Baxter, SimLab's Allegro Hand, Quanser HD2

Links

Website: https://chenna.me

Linkedin: https://www.linkedin.com/in/kautilyachenna/

Github: https://github.com/hashb