Jiaxin Zhang

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Education

Boston University, College of Engineering Boston, MA
Master of Science in Electrical and Computer Engineering Dec 2019 Exp

University of Science and Technology of China Hefei, China
Bachelor of Science in Physical Electronics, School of the Gifted Young June 2018

Work Experience

Software Engineer, Horizon Robotics, Cupertino, CA Summer, 2019

- Designed and implemented in-car eye gaze data collection system.
- Automatic intrinsic & extrinsic calibration with multiple RealSense and IR cameras.
- 3D face landmark estimation based on mono IR camera.

Teaching Assistant, Peking University, Beijing, China Summer, 2016

- Conducted weekly lectures in Calculus for an Economics course.

Projects

Robotic Arm Control in Gazebo, Boston, MA Fall 2018

- Designed and Built a Robotic Arm with ROS in gazebo with a team of four.
- Implemented PCL and PointNet to process point cloud data for semantic segmentation.
- Implemented motion planning and control for the robot with Moveit.
- Integrated Alexa interface that allowed users to control Robotic Arm with their voice.

FPGA based BNN Acceleration, Hefei, China Spring 2018

- Implemented Binarized Convolutional Neural Networks(BNN) in Xilinx ZedBoard.
- Achieved 93% Accuracy on ASL FingerSpelling dataset.
- Achieved 70 frames/secs processing speed for a 9-layer-BNN within only 2.4W power supply.

PBGen, Notre Dame, IN Summer 2017

- Explored and designed Partial Binarized algorithm for Deconvolution-Based Generators.
- Achieved 25x saving in memory and 1.9x speed up with little performance loss.
- Published as second author, see the paper at arxiv.org/pdf/1802.09153.

Eye Tracking System Hefei, China 2015 - 2016

- Designed and built a system with helmet, Lidar and camera that track the user's gaze point.
- Used infrared camera integrated in the helmet to catch eye's movements.
- Implemented sensor fusion algorithms for IMU and Vive Lighthouse to get the helmet's 6DoF.
- Controlled a Pan-Tilt Camera to follow the user's gaze point.
- Designed and built auto calibration system for the helmet and pan-tilt camera.

Skills

Programing Languages: Python, C/C++, MATLAB
Frameworks: OpenCV, PCL, ROS
Tools: Git, CMake, Xilinx SDSoC and VivadoHLS
Developing Experience: ARM Cortex-M4 based on Kinetis K60, Xilinx ZedBoard