Yuan Zhou

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GitHub: https://github.com/zhouyuan7

EDUCATION

Chongqing University **Chongqing, China**
Major: B.E. in Mechanical Design, Manufacturing & Automation **09/2012-07/2016**
- Cumulative GPA: 79/100, Major GPA: 85/100

Boston University **Boston, MA,USA**
Major: M.S. in Mechanical Engineering (Robotic) **09/2016-05/2018**
- Current GPA: 3.53/4.0

PROJECTS

Project demo videos can be found inside my GitHub.

Baxter project-1: Vision servoing based object plane following **Boston, MA, USA**
Group project, Advisor: Prof. Roberto Tron **09/2017-12/2017**
- Tracking a tennis ball in a plane using Baxter robot arm. Divided into vision and motion part.
- Vision: Using Baxter arm camera, recognizes a tennis ball coordinate by OpenCV color detection method.
- Motion: Using a potential based method, generate a plane vector as a control signal set to Baxter API.

Baxter project-2: Spatial target estimation and arm workspace control **Boston, MA, USA**
Individual project, Advisor: Prof. Roberto Tron **02/2018-05/2018**
- Estimate a spatial position of a tennis ball and a position-Jacobian movement strategy generated by myself.
- Vision: Do pattern recognition using color separation. Use two hand cameras through linear triangulation and single value decomposition to estimate spatial location in Baxter coordinate system.
- Motion: An infinitesimal position control strategy with a given trajectory using Jacobian.

Baxter project-3: Baxter grabs cup using Kinect sensor and Yale OpenHand module **Boston, MA, USA**
Individual project, Advisor: Prof. Roberto Tron **05/2018-08/2018**
- Recognize & localization target using machine learning technique and Kinect sensor. Build Yale OpenHand module and control it to grab the target. A full engineering train in robotic with both hardware and software.
- Vision: Load a state-of-the-art CNN module to box a cup target in RGB frame and use Kinect sensor point cloud to get a mean pose(translation) relate to world coordinate with sensor intrinsic and extrinsic calibrations.
- Motion: Use 3D printing to build a customized hand and do motor driver setting to grab the cup.

INTERNSHIPS

Rockwell Automation **Hangzhou, China**
Practice Trainee **07/2017-08/2017**
- Join Abbott Medical Optics (AMO) West Compounding System Reengineering Project in Hangzhou.
- Cover proposal support, design assistance, PLC coding support, and HumanMachineInterface(HMI) configuration.
- Support the project Customer Hardware Site Acceptance Test (HSAT).

Others

Languages: Mandarin (Native), English (Proficiency)
Computer Skills: MATLAB, Python, ROS
Other Skills: Mechanical Design (Inventor), 3D printing experience