HAORAN LI

haoranli@gatech.edu https://github.com/HL-EverGreen (+86) 178 · 1689 · 0200

Education

Zhejiang University (ZJU)

Sept. 2014 - Present

- **B.Eng. in Automation** (expected in *July 2018*) *Hangzhou, China*
- **Rank:** 15/117 **Overall GPA:** 87.0/100 **Major GPA:** 88.2/100
- **Core Courses:** *Computer Control System, Microprocessors & Interface, Signal and System, Principles of Automatic Control, Database System, C++ Programming, Data Structure*
- **Related Courses:** *Discrete Mathematics, Computing Theory, Computer Networks*
- **Honors:** *Meritorious Winner in Interdisciplinary Contest in Modeling, SupCon Prize(2%), third grade Scholarship*

Research Experience

• Intelligent Vision and Automation Lab Gatech Advisor: *Prof.* Patricio Vela *Aug. 2017 - Sept. 2017*

– Worked on the **Remote Robot Teleoperation Interfaces** project, to reduce the workload in operating robotic arm
– Incorporated scene information around the interested point selected by user into grasp specification algorithm
– Replaced the antipodal gripper pose classifier in AGILE algorithm with a heuristic-based approach, to find series of reliable grasp options ordered from best to worst for users to choose from
– Achieved arm's accurate control only requiring users to choose an interested point on target object upon user interface

• Computer Vision and Pattern Recognition Lab ZJU Advisor: *Prof.* Wei Jiang *May 2016 - Dec. 2016*

– Worked on the **Super Resolution Image Reconstruction** project, to increase the resolution of primitive images
– Proposed an adaptive POCS algorithm that predisposed original figures by interpolating pixel on the premise of retaining boundary information to decrease the noises, which obviously increased the quality of generated image
– Developed a MATLAB-based system to achieve the process of Super-Resolution reconstruction

• ZJUNlict Robot Soccer Team ZJU Advisor: *Prof.* Rong Xiong *Sept. 2016 - Dec. 2016*

– Worked on small scale wheeled mobile robot, to increase its competitiveness in RoboCup
– Programmed a main controller to let six robots compete against another team virtually by simulation
– Designed part of the attack and defense strategies, to provide several plans for robots to choose from during competition

Project Experience

• Database Management System(MiniSQL) ZJU Advisor: *Prof.* Jianling Sun *April 2017 - May 2017*

– Developed a DBMS allowing users to manage their own databases using SQL statements through character interface
– Used LRU strategy in Buffer Manager and applied B+ tree structure in Index Manager to improve efficiency, achieved slotted page structure in Record Manager to support variable-length records
– Designed Interpreter Manager to interact with users and programmed API to integrate the whole project

• Airport Passengers Throughput Model *Jan. 2017*

– Aimed to find economical and safe way to increase passengers throughput at security checkpoint in Ohare Airport
– Deduced differential equations, transformed DE model into physics model and ran simulation in MATLAB
– Succeeded in giving advice to increase throughput and designated as Meritorious Winner in ICM

• Market Shopping Robot *Sept. 2015 - May 2016*

– Led a group to design a shopping robot, which can recognize and carry certain object from inventory to specified spot
– Adopted MSCR algorithm in detecting local feature region to help determine figures contour
– Used cascade control system in robots motion to improve overall accuracy

• C++ RPG Game with 3500 Lines of Code *June 2016*

– Developed a role-playing game which had career, skill, weapon, equipment, mission, map, battle systems
– Used Unity game engine and provided players with interactions in 2D

• Recovery of Rubik's Cube within least steps *May 2016 - June 2016*

– Calculated possible state transition matrixes and used breadth-first search algorithm to find the least-step solution
– Developed a MATLAB-based software which could display the process of recovering

Skills and Others

Programming C/C++, Python, MATLAB, ROS, SQL, Lua, LaTeX
Language TOEFL: 97 GRE: 153(V), 170(Q), 3.5(AW)