Hesen Zhang

(213)-810-0713 · 2994 Kaiser Drive, Santa Clara, CA 95051 · hesenzha@usc.edu

Objective

Seek a Full-Time Software Engineer Position

Education

University of Southern California, Los Angeles, CA — May 2016
Master Degree of Computer Science

University of Liverpool, Liverpool, United Kingdom — May 2014
Bachelor Degree of Electronics Engineering

Skills

Programming Languages: C++, C, Java, Python, Swift, JavaScript, PHP, C#, HTML&CSS, Matlab
Tools/Frameworks: OpenCV, OpenGL, Django, Node.JS, JQuery, Bootstrap, Unity, Unreal, SQL

Work Experience

Student Worker in USC Robotic Embedded Systems Laboratory — Oct 2015 - Apr 2016

- Implemented the path planning algorithms for underwater robots, deployed and tested on the prototype
- Built official website and provided technical support for Southern California Robotics Symposium 2016

Projects

Stock Search Tool — Apr 2016 - May 2016

*A full stack solution with **PHP** on **AWS** along with web(**JQuery**, **Bootstrap**) and mobile(**iOS/Swift**) applications*

- Collected and organized other sources by AJAX on own server side, and provided JSON APIs
- Implemented features including auto-complete search, displaying detailed stock information, illustrating historical interactive chart, showing updated news, and providing editable personal favorite list
- Implemented interactive features on social network such as sharing and like via Facebook application
- Github: https://github.com/pineal/stock_querier

StartCraft AI Development — Feb 2016 - Apr 2016

*A teamwork project based on BWAPI (**C++**), ranked Top 5 in Student StarCraft AI Tournament 2016*

- Analyzed map information and evaluated the progress of battle to provide rule-based heuristic decisions
- Implemented advanced unit behaviors in battle including squad formation, hit and run, damage concentration
- Coordinated with teammates by Github and Slack, produced demo videos and delivered presentations
- Github: https://github.com/pineal/SC_AI_Flash

Stochastic Path Planning for Underwater Robots — Dec 2015 - Apr 2016

*A **Linux** simulation software developed by **C++**, Displayed by **OpenGL** User Interface*

- Implemented Markov Decision Processing model and used for calculating the optimal path
- Designed and developed stochastic path planning algorithm based on Markov Chain Transition Matrix
- Calculated Mean First Passage Time to detect and estimate dead ends by using dynamic programming skill
- Modeled and Implemented kinematics and applied PID controller for robot prototype