Hao(Avery) Sun

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SUMMARY

- Quick-learning, organized developer with experiences in **Virtual Environment Simulation**, **Game**, **Computer Vision**, **Computer Network**, **Web**, **Mobile App Development** and **Information Visualization**
- Skilled in **Designing**, **Programming**, **Testing** and **Debugging**
- Seeking a job which challenges me every day to fulfill my dream of becoming a successful software engineer to make our world better

HIGHLIGHTS

- **Hao Sun**, Xiao Xue, Experimental Research on Evolution of E-Commerce Ecosystem Based on Mutli-Agent Modeling, Computer Engineering(ISSN 1000-3428, CN 31-1289/PT), No. 07, 2016
- Rui Guo, Babajide Ayinde, **Hao Sun**, Ken Oguchi, Patent "**Distance Estimation Using Machine Learning**", Pending
- **Volunteer** in Tzu Chi (charitable organization), distribute breakfast to homeless every Sunday in San Jose, CA

SKILLS

- Java(5+yr), C++/C#(1+yr), Python(1+yr), Swift(1+yr), Bash
- Game Development (Unity3d, Unreal, OpenGL, PhysX), iOS App Development (MVC, Swift + Xcode), Computer Vision, Full-Stack Web Development (HTML5, CSS3, Bootstrap, PHP, MySQL, JavaScript, jQuery, Node.js, D3.js, Django, Socket.IO, AJAX, JSON, XML, Amazon EC2, etc.), LaTex, Processing
- Others: Multithreading, Optimization, Unit Test (Junit, Mockito, Maven), MQTT, QT, GitHub, GitLab, Bitbucket, Jira

EXPERIENCE

Simulation Environment Developer, Software Engineer (Co-op)
Toyota InfoTechnology Center, Mountain View, CA **May 2018 – Current**

- Implemented vehicle control and integration of control with external traffic applications in Unity(C#)
- Designed, integrated, tested and documented the simulator with the external applications
- Optimized the simulator FPS performance from lower than 10FPS to over 30FPS.
- Designed several virtual scenarios and generated more than 900,000 synthetic images for deep learning training.

TA in Data Structure and Algorithms (A+)
Washington University in St. Louis, St. Louis, MO **Feb 2018 – May 2017**

- Helped students in Studio, held office hours and graded exams

Plate Detection and Segmentation in Images Project (Summer Internship)
Institute of Automation, Chinese Academy of Sciences, Beijing **Jul 2015 – Aug 2015**

- Mastered basic knowledge of image processing, image enhancement, image segmentation, pattern recognition and computer vision
- Designed program structure, programmed plate license character segmentation and constructed character library
- Realized an effective character segmentation algorithm, won the first place in final testing with my teammates

PROJECTS

Tricky Table--A multiple player battle game in Unity **Mar 2018 – May 2018**

- **Led** a 5-member game development team
- Conceived the game design (including name, modes and rules)
- Designed game scenes and realize camera control using C# in Unity

Files Sharing, News, Calendar, Chatting Room, E-Commerce, Wildlife Trade websites **Feb 2018 – May 2018**

- Applied 5 different web development frameworks
- These websites are full-featured version with both front-end and back-end development
- Wildlife Trade website mainly used information visualization techniques (D3.js)

ConnectU--A social networking app in iOS **Oct 2017 – Dec 2017**

- **Led** a 4-member app development team, used GitHub to do the teamwork
- Designed UI of welcome, login, register, chatting, contacts and profile views using Swift in Xcode
- Established users and messages database using Firebase, realized user login, register, logout features

Research on China and ASEAN Geo-Economics Co-competition Evolutionary Model **Dec 2013 – Mar 2016**

- Designed a simulation platform using Java in Eclipse-RePast Simphony (A Complex-system Simulation platform)
- Optimized program code and debugged in Java
- Collected and visualized experimental data

EDUCATION

- **Washington University in St. Louis, MO | MS in Computer Science** **Aug 2017 – May 2019**

School of Engineering & Applied Science Master's Fellow GPA 3.80/4.00

- **Henan Polytechnic University, Henan, China | MEng in Software Engineering** **Sep 2013 – July 2016**

Scholarship of Excellent Academic Performance / Research area: Complex System Simulation GPA 3.50/4.00