Hao 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

TECHNICAL SKILLS

- Java, C++/C#, Python, Swift, Shell
- Game Development (Unity3d & Unreal), iOS App Development (MVC, Swift + Xcode), Computer Vision
- Multithreading, Code Optimization, Unit Test (Junit, Mockito, Maven), MQTT
- Web Development (HTML5, CSS3, PHP, MySQL, JavaScript, Node.js, D3.js, Django, Bootstrap, Socket.IO, AJAX, JSON, XML, jQuery, etc.), Amazon EC2

WORKING EXPERIENCE

Simulation Environment Developer, Software Engineer
Toyota InfoTechnology Center, Mountain View, CA| Summer Internship and Co-op **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 using Multi-Threading, Unity performance optimization techniques and external assets
- Designed several virtual scenarios for data collection, 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
Institute of Automation, Chinese Academy of Sciences, Beijing | Summer Internship **Jul 2015 – Aug 2015**

- Mastered basic knowledge of image processing, image enhancement, image segmentation, pattern recognition and computer vision
- Designed the program structure, programmed plate license character segmentation and constructed character library in MATLAB
- Realized an effective character segmentation algorithm and won the first place in final testing along 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 and JSON, and programmed user login, register, logout functions

Refined iCAM06 HDR model--A model designed for HDR image rendering **Oct 2017 – Dec 2017**

- Improved original iCAM06 model by replacing bilateral filter with guided filter
- Realized model algorithm using both Python and Matlab

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**

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