Shan He

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Education

The University of California at Los Angeles (UCLA), Los Angeles, CA — *Sep. 2016 - Present*
M.S. in Computer Science, Ongoing Courses: Database System, Data Mining

Shanghai Jiao Tong University (SJTU), Shanghai, China — *Sep. 2012 - Jun. 2016*
B.S. in Information Engineering, GPA: Core 3.77/4.0, Overall 3.70/4.0, Ranking: 9/162

Technical Skills

Programming Languages: C/C++, Python, Java, JavaScript, HTML, CSS, PHP, MATLAB, LaTeX

Projects

Implementation of B+ Tree Index for IMDb Database (C++) — *Oct. 2016 - Present*
- Create dynamic web interface using PHP for users to interact with MySQL database.
- Built a highly-balanced B+ Tree indexing system for a MySQL-like data base and optimized its disk I/O.

RFID Intelligent Library Management System Design (C) — *Feb. 2016 - Jun. 2016*
- Constructed the model of library, calculated the distance between mistaken books and their original locations.
- Generated the shortest route to reorder books by optimized Hill Climbing, Simulated Annealing and Genetic algorithms.

Parkour Game Development Based on Artificial Intelligence (C++) — *Sep. 2015 - Dec. 2015*
- Built a parkour game by Cocos2d-x; designed and drew game scenes, characters' images and animation.
- Implemented Artificial Intelligence module with Behavior Tree, applied Game Theory to optimize difficulty level.

Power-Saving Wearable Computing System Design (Java, Matlab) — *Jul. 2014 - Jul. 2015*
- Gathered data from sensor-based wearable Android devices; processed it with machine learning algorithms.
- Reduced power consumption by 24% via intelligently switching highly correlated sensors and sampling rate.

Ping-Pong Playing Action Recognition Application Development (Java, Matlab) — *Sep. 2014 - Jun. 2015*
- Developed Android applications to collect accelerometer and gyroscope's data and send feedback of non-standard actions to users, and recorded the number of standard actions.
- Segmented data, extracted features and trained data to build a classifier using Support Vector Machine with One Versus One method, classified 4 actions with precision rate of 90% and recall rate of 84%.

Media Access Control (MAC) Protocol Design Based on TDMA (C++) — *Feb. 2014 - Jul. 2014*
- Proposed and verified a TDMA-based MAC protocol (CU-MAC) which leverages collisions in dense network.
- Proved CU-MAC outperforms CSMA/CA when serving large amount of clients, and CU-MAC keeps higher throughput in dense network by NS3.

Internship

Shanghai PopCap Software Co., Ltd. (EA Mobile) — *Jul. 2015 - Oct. 2015*
Game Designer Intern, member of Plants vs. Zombies 2 (PVZ2) Chinese Team
- Configured time-limited challenges, new game levels (Birthday Zombies, new Danger Room) for special seasonal events with JSON, uploaded to *Perforce*, designed user interface using *Adobe Illustrator* and *Photoshop*.
- Analyzed players' feedback, revised game values in configuration files to adjust game difficulty.
- Composed special announcements, and almanac for 25 new plants and zombies, documented game strategies for more than 220 levels in a book published by *China Children Press*, wrote characters' dialogue for *The Sky City* game section.

Honors & Awards

Outstanding Graduates of Shanghai (highest honor for SJTU graduates) — *2016*
SCSK Corporation Scholarship (Top 5%) — *2015*
Excellence Scholarship, Cambridge Academic Development Seminar (Top 10%) — *2015*
1^{st} Place, Xindong Enterprise Scholarship (Top 3%) — *2014*
Scholarship for Academic Excellence, SJTU (Top 5%) — *2013, 2014, 2015*

Leadership, Service & Interests

Executive President of Go-abroad Association, SJTU — *Mar. 2016*
Hostess of Sino-US Communication Center Opening Ceremony, SJTU — *Sep. 2013*
Volunteer of Shanghai International Marathon — *Dec. 2012*
Interests: Freehand sketching, painting ($\geq$15 years), video games, mountaineering