CHIA-WEI CHANG

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Citizenship: permanent resident of United States of America, resident of Texas and a citizen of Taiwan

Education

TEXAS A&M UNIVERSITY, College Station, TX   - Aug. 2016 to Present

Master of Computer Science   Grade Point Average: 3.67

- Relevant courses include Algorithm, Database System, Advance Network and Security, Machine Learning, Compiler Design and Information Storage and Retrieval

NATIONAL CHUNG CHENG UNIVERSITY, Chia-Yi, Taiwan   - Sept. 2012 to June 2016

Bachelor of Communications Engineering   Overall Grade Point Average: 3.4

- Ranked 10 out of 55 in department at one of the top 5 engineering schools in Taiwan
- Received a Dean's List Award and two Academic Progress Awards

Relevant Experience

Technical Research Assistant of TAMU's Engineering Technology and Industrial Dist. Dept.   - Aug. 2016 to Present

- Programed a real-time robotic industrial arm that uses vision sensor input to follow human hand movement and gestures
  - The system also senses human fingertip pressure and speed so the arm mimics it precisely
- Designed an intelligent agent for image recognition on breadboard with reinforcement learning from user feedback to assist web-based teaching

Software Engineer Intern at Industrial Technology Research Institute of Taiwan   - Sep. 2015 to Nov. 2015

- Achieved throughput of 300 Mbit/s to a single mobile device by bandwidth aggregation of LTE small cell and WiFi links. Worked with a team of six people
- Developed dynamic functionality of streaming to allow a user to change the transmission path in multi-thread

Projects

- Developed a context awareness phone app to detect a "man in the middle attack" in a smart home scenario
  - Invented this new lightweight service by analyzing Received Signal Strength Indicator of Bluetooth
  - Reduced the false positive rate to below 1 percent by applying the K-means clustering algorithm
- Designed a SDN controller module of layer 3 learning switch and firewall in floodlight
  - Utilized the advantage of SDN and designed a new effective weighted routing mechanisms with one controller to increase the average speed by 60% in 100 nodes network topology
- Built a Multi-Expert-System to assist computer science students to select among top 100 US grad. schools
  - Used both rule-based engine and case-based reasoning in the platform Jadex to determine decisions
  - Communicates and cooperates between agents within the system by negotiating to solve conflict intentions
- Created a Database Management System that is designed to interpret all SQL queries
- Implemented an Android app that uses RMI and sockets to build connections between phones and computers
  - Enables user to deliver pictures or data conveniently without compression
- Maintained dynamic Website documents for all soccer player performance statistics in 2012 Premier League
  - Fantastic graphical user interface allows the user to search for statistics from MySQL 100k large database

Special topics on communication systems (senior thesis)   - Jul. 2014 to Feb. 2015

- Simulated modulations of FSK, PSK and 64QAM with MATLAB, and verified correctness with theoretical ones.
- Analyzed conclusions based on SNR differences, the corresponding symbol error rate (SER), bit error rate (BER) and eye diagram, and clarified the best modulation for different conditions

Skills

- Computer programming Language: C/ C++, JAVA, VB.NET, Python, SQL, JavaScript, CSS/HTML, PHP, MATLAB
- Competent in mathematic of Discrete Math, Possibility, Statistic, Linear algebra and Deferential equation