Hsuan-Hau Liu

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EDUCATION

University of Southern California | Los Angeles, CA　　**Auburn University** | Auburn, AL
M.S. Computer Science - Intelligent Robotics　　　　　　*B.S. Computer Science*
Expected to Graduate in Fall 2019　　　　　　　　　　　　Major GPA: 3.65 | December 2017

SKILLS

- **Programming Languages**: C++, Python, Java, C
- **Web Development**: HTML, JavaScript, CSS, JSP, XML, Bootstrap
- **Tools**: VIM, Git, MS Visual Studio

WORK EXPERIENCE

Undergraduate Teaching Assistant at Auburn University, USA　　　　　　　　　　Fall 2017
Personal Computer Applications Course
- Prepared course material prior to each class and assisted lecturers during class.
- Guided students through finishing lab assignments and provided help for technical issues.

Internship with DrayTek at HuKou, Taiwan　　　　　　　　　　　　　　　　Summer 2015
Product Quality Control Department
- Conducted product testing on internet routers, APs, modems and provided reports.
- Performed bug reproduction and identified the cause.
- Provided technical support for the customers.

PROJECTS

Machine-Improvised Music | Python　　　　　　　　　　　　　　　　　　　　Fall 2017
- Developed an intelligent system that can learn from sets of musical melodies and produce music.
- Performed statistical analysis on input MIDI files, and generated consistent and pleasant melodies.
- Implemented various modified Hill Climbing algorithms to achieve goal and improve results.

Chatroom System | C, Java　　　　　　　　　　　　　　　　　　　　　　　　Fall 2017
- Designed a pair of client and server programs for peer-to-peer communication between computers.
- Used UDP for sending chat requests and TCP for reliable chat connection over network.
- Implemented checksum, data transmission, and automatic pairing features.

Message System with Needham-Schroeder Protocol | C, Java　　　　　　　　　　Fall 2017
- Created a message system with data encryption feature using symmetric and asymmetric ciphers.
- Implemented XOR and RSA encryption algorithms for the Needham-Schroeder protocol.

Online Exam Web Application | JSP, XML, CSS, MySQL　　　　　　　　　　　Spring 2017
- Produced a web application to administer online exams for students and test makers.
- Designed a user-friendly interface for users to navigate through the website.
- Utilized SQL query for storing and retracting data from the database.

Bank Transaction System Simulation | C++　　　　　　　　　　　　　　　　　Fall 2016
- Designed a program that allows users to create various bank accounts and use basic bank services.
- Implemented derived classes with functions using inheritance and virtual functions.

RELEVANT COURSEWORK

- Data Structure • Algorithms • Discrete Structures • Software Construction
- Software Modeling and Design • Web Application Development • Artificial Intelligence

HONOR & INVOLVEMENT

- **Honor:** Auburn University Dean's List (Spring & Fall 2017)
- **Member:** Association for the Advancement of Artificial Intelligence (2018), USC Association for Computing Machinery (2018), USC Autonomous Underwater Vehicle Design Team (2018)