Hsuan-Hau Liu

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EDUCATION

University of Southern California | Los Angeles, CA
M.S. Computer Science - Intelligent Robotics
GPA: 3.57 | Exp. December 2019

Auburn University | Auburn, AL
B.S. Computer Science
Major GPA: 3.65 | December 2017

SKILLS

- **Programming Languages**: Proficient: Python, C++ / Familiar with: Java, C
- **Web Development**: HTML, CSS, JavaScript, Bootstrap
- **Tools**: Git, VIM, Jupyter Notebook, PyCharm, MS Visual Studio Code

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 monitoring exams.
- Guided students through finishing lab assignments and offered 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 delivered detailed reports.
- Corresponded with a team of five engineers to provide technical support in resolving problems for customers, and performed bug reproduction to identify root causes.

PROJECTS

Random Text Generator | Python — Summer 2018

- Created a program that generates random word sentences based on user inputs.
- Implemented using Naïve Bayes and Hidden Markov Model techniques.

Grid World Intelligent Agent | Python — Spring 2018

- Constructed an intelligent agent that finds an optimal sequence of actions to reach the goal from any state of the pre-built game world.
- Employed Policy Iteration algorithm to solve the Markov Decision Process problem.

Hidden-Message Image | Python — Spring 2018

- Devised a program that allows users to hide messages in any images.
- Implemented algorithms for both encrypting and decrypting the messages.

Machine-Improvised Music | Python — Fall 2017

- Developed an intelligent system that can learn from musical melodies and produce music.
- Conducted statistical analysis on input MIDI files, and used Hill Climbing algorithm technique to generate consistent and pleasant musical melodies.

Online Exam Web Application | JSP, XML, CSS, MySQL — Spring 2017

- Built a web application to administer online exams for students and test makers, including features such as account creation, login, name search, exam creation, and result review.
- Designed a user-friendly interface and organized visual structures for easy navigation.

RELEVANT COURSEWORK

- Analysis of Algorithms • Data Structure • Machine Learning • Artificial Intelligence
- Software Construction • Software Modeling and Design • Web Application Development

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)