

# 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, MS Visual Studio Code

## WORK EXPERIENCE

**Developer Intern** at University of Southern California, CA, USA Fall 2018  
*Directed Research CarmaCam Project*

- Developing machine learning models to analyze videos for recognizing dangerous driving cars, assigning violation report scores, and enhancing current web application.

**Undergraduate Teaching Assistant** at Auburn University, AL, USA Fall 2017  
*Personal Computer Applications Course*

- Prepared course material prior to class time and assisted lecturers monitoring exams.
- Guided students through finishing lab assignments and helped resolve technical issues.

**Student Intern** at DrayTek, HuKou, Taiwan Summer 2015  
*Product Quality Control Department*

- Conducted firmware testing on internet routers, APs, modems and delivered detailed reports.
- Corresponded with an engineer team to provide technical support for customers, performed bug reproduction to identify root causes, and tested new firmware features before release.

## PROJECTS

**Random Text Generator** | Python Summer 2018

- Created a sentence generating program which can produce natural sounding sentences based on sentences users input into the program, implemented using Naïve Bayes and Hidden Markov Model techniques.

**Machine-Improvised Music** | Python Fall 2017

- Developed an intelligent system which can learn musical melodies and produce music of its own, by conducting statistical analysis on input music files and in combination of Hill Climbing algorithm technique to generate consistent and pleasant musical melodies.
- Constructed data structure for optimizing statistical analysis phase speed and performance.

**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, as well as backend database structure and website navigation flow.

## RELEVANT COURSEWORK

- Analysis of Algorithms • Data Structure • Machine Learning • Artificial Intelligence
- Advanced Computer Vision • Web Application Development • Augmented, Virtual, and Mixed Reality

## 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)