

CHEN LIU

UCSD COMPUTER SCIENCE JUNIOR



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EDUCATION

University of California, San Diego - Undergraduate

Major: Computer Science Major GPA: **4.0/4.0**
Degree: Bachelor of Science Overall GPA: **3.94/4.0**

CSE Course Taken:

Java & OO Programming	Basic & Advanced Data Structure (C, C++)
Software Engineering (Mobile Dev)	Interaction Design (UI/UX, HCI, WebDev)
Computer Graphics (C++, OpenGL)	Virtual Reality Technology (C++, OpenGL)
Neural Network & Deep Learning (Python)	
Discrete Math & System Analysis	Design & Analysis of Algorithm
Computer Organization & System Programming (C, SPARC Assembly)	
Theory of Computation (Haskell)	

COURSE PROJECTS

Android App Development

- Language: Java, Python
- Tools: Android Studio, Axure, Firebase, Google Calendar API
- My Job: UI/UX design and implementation, Python scripts
- Our team was building a personal task manager specifically for tasks from school classes. Our app will automatically integrate the task information from each class the user takes, so that the user can manage their task easily without having to input all the tasks.
- To start with, we used Python script to grab the class list from UCSD's enrollment platform, and then grab all the tasks along with their related information like due dates from the class websites. Then, as long as the user has chosen the classes they are taking, they will be able to manage all the tasks in the app.
- Moreover, user can also create their own tasks, and they can share the tasks they have created. Other users can see the shared tasks of the classes they have enrolled in, and import those tasks into their own personal task list if they want.

HCI Design & WebApp Development

- Language: HTML 5, CSS 3, JavaScript
- Tools: Axure, Node.js, jQuery, handlebars, Firebase, heroku
- My Job: Front-end interaction implementation and UI/UX design
- With stresses on HCI development process including needfinding, prototype design, heuristic evaluation, mental model analysis, visual design, and A/B testing, we have built a WebApp that helps user manage their clothes online and provide daily outfit suggestions.
- User can add their daily outfit to their account. Our system will based on user's dressing history and the number of "like" from other users to give dressing suggestion.

Image Colorization

- Language: Python
- Tools: Numpy, matplotlib, Tensorflow, Jupyter
- We used multilayer perceptron and convolutional neural network to train on colored images, by converting them to grayscale and doing the training, then comparing to the original colored one.
- We experimented on using the image segmentation, a technique used in saliency detection, to optimize the result of colorization, and found that the image segmentation will improve the quality of resulting images, with little cost in training time.
- Link to our final paper: [Here](#)

SKILL

CODING

C++	<div></div>
Python	<div></div>
Java	<div></div>
C#	<div></div>
OpenGL	<div></div>
HTML CSS JS	<div></div>
Node.js	<div></div>

Unity | Android Studio | Axure
Interaction Design | UX Research
UI & Icon Design | Layout Design
Wireframing & Prototyping

SIDE PROJECTS

VR Classroom

- Language: C#
- Tools: Unity, Maya
- Platform: Vive, Daydream
- It is a VR educational platform using Vive and Daydream respectively for teacher side and student side.
- Teacher side can showcase slides, demonstrate 3D models, and respond to student's question or even join in student's discussion.
- Student side has press-to-talk that enables students to discuss with each other as well as the teacher. It also has a note taking tool.

An Award-Winning Archaeological VR Experience

- Language: C#
- Tools: Unity
- Platform: Oculus
- Description in [Devpost](#). This project won the first place of the Cyber-Archaeology VR Hackathon. Check [this](#) for the detail of this event.

Global ID Matching

- Language: Java, Matlab
- It is an ongoing research project. We are building a system that encrypts the data from different institutions, has them uploaded to server, compares them and sends result to them without possibly leaking the privacies of patients.

