Joe Chang

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TECHNICAL SKILLS			
Languages		**Applications**	**Operating Systems**
• C++ • HTML/CSS		• Visual Studio	• Windows
• Java • JavaScript		• Eclipse	• Mac OS
• C • PHP		• PyCharm	• Linux
• Python		• Unity	

EXPERIENCE

Hierarchical Triangular Mesh Index for Astronomical Data　　　　June 2016 – February 2018

Prof. Meng-Feng Tsai – National Central University | Taoyuan, Taiwan

- Collaborated with a team of 4 students using HTM concept to develop on SPARK on YARN (Hadoop) environment

PROJECTS

VR Game – The Exam Artist　　　　January 2020 – May 2020

Augmented, Virtual and Mixed Reality (CSCI 538) – University of Southern California | Los Angeles, CA

- Developed using Unity and Oculus Rift. As a group of 9 people, we created a VR 'cheating' game. The player is in an exam with a strange and hard quiz. The only way to answer correctly is cheat in a variety of ways.

Inverse Kinematics　　　　March 2020 – April 2020

Computer Animation and Simulation (CSCI 520) – University of Southern California | Los Angeles, CA

- Implemented Inverse Kinematics (IK), Forward Kinematic (FK), and Skinning on the given models. Users can drag the IK handles to animate the model, e.g. armadillo, in real time

Product Search iOS App　　　　April 2019 – May 2019

Web Technologies (CSCI 571) – University of Southern California | Los Angeles, CA

- Used AWS server and eBay API to write an iOS app that users were able to search for products and look further into the product's details and related products.

Ray Tracing　　　　March 2019 – April 2019

Computer Graphic (CSCI 420) – University of Southern California | Los Angeles, CA

- Developed with OpenGL. Built a ray tracer that could handle opaque, mirror surfaces with lighting and shadows. Included features such as antialiasing, soft shadows, and motion blur.

Roller Coaster Simulation　　　　February 2019 – March 2019

Computer Graphic (CSCI 420) – University of Southern California | Los Angeles, CA

- Developed using OpenGL and used Catmull-Rom splines to create the rails that the camera can move in a reasonable speed physically realistic over the rails

Interactive Video Player & Hyper-Linking Video Tool　　　　November 2018 – December 2018

Multimedia System Design (CSCI 576) – University of Southern California | Los Angeles, CA

- Developed an Interactive Multimedia Content that combines video with a non-linear information structure, allowing a user to make choices based on the content of the video

VOLUNTEER EXPERIENCE

Remote Mountain District Service　　　　June 2012

Jie Shou Elementary School | Fuxing District, Taoyuan, Taiwan

- Provided educational service to elementary children in a remote village
- Designed courses and activities with a group of 20+ students

EDUCATION

Masters of Science in Computer Science (Multimedia and Creative Technologies)　　　　August 2018 – May 2020

University of Southern California | Los Angeles, CA

- Obtained a cumulative GPA 3.92 / 4.00

EXTRA-CURRICULAR

Student Association of Computer Science and Information Engineering Department　　　　2015 – 2016

National Central University | Taoyuan, Taiwan

- Vice director of News and Information Division

INTERESTS

- 10+ years of experience playing piano; 7 years of experience playing bass guitar
- 7 years of experience photography and editing films