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	• XCode	• Linux
• Python		• PyCharm	
• C#		• 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
- Assisted laboratory students on document writing

PROJECTS

VR Game – The Exam Artist   **January 2020 - Present**
Augmented, Virtual and Mixed Reality (CSCI 538) – University of Southern California | Los Angeles, CA
- Using Unity and Oculus Rift, we created a VR 'cheating' game. Player is in an exam with a strange and hard quiz. The only way to answer correctly is cheat in a variety of ways. Can he/she become the exam artist?

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

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 – Present**
University of Southern California | Los Angeles, CA

Bachelor of Science in Computer Science and Information Engineering   **September 2014 – June 2018**
National Central University | Taoyuan, Taiwan
- Received 5 Presidential Rewards, achieved as top 3 students in department
- Obtained a cumulative GPA 3.97 / 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