Joe Chang

(778)-855-2566

joekang95@gmail.com

joekang95.github.io

TECHNICAL SKILLS	Languages		Applications	Operating Systems
	• C++ • HTML/CSS		• Visual Studio	• Windows
	• Java • JavaScript		• Eclipse	• Mac OS
	• C • PHP		• PyCharm	• Linux
	• Python • 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 and assisted laboratory students on document writing

Vancouver Academy of International Study　　　　**2014 – 2017**
- Assisted teaching English and Math during the summer breaks.

PROJECTS

VR Game – The Exam Artist　　　　**January 2020 – May 2020**
- 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**
- 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 Website / iOS App　　　　**March 2019 – May 2019**
- 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. Also had PHP and Node.JS version of website.

Ray Tracing　　　　**March 2019 – April 2019**
- 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**
- 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**
- 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

Multi-user Chatroom　　　　**November 2016 – December 2016**

- Individually develop a chat room in Java with the concept of socket programming

Election Predictor　　　　**October 2016 – November 2016**
- Collaborated with a team of 4 students to develop a system in Java using the concept of NLP to predict the 2016 American Presidential Election.
- Crawled all training data from Facebook and Twitter fan pages of both candidates

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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

Bachelor od Science in Computer Science
National Central University (NCU) | Taoyuan, Taiwan
- 5 Book Awards. Cumulative score 91.86/100 (GPA 3.97/4.00)

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

EXTRA-CURRICULAR	**Student Association of Computer Science and Information Engineering Department** *National Central University	Taoyuan, Taiwan* • Vice director of News and Information Division	**2015 – 2016**
	Organizer of Campus E-sports Competition *National Central University	Taoyuan, Taiwan* • Groupe Leader of Document and Finance Group	**2015 – 2016**
INTERESTS	• playing piano, bass guitar • photography and editing films	