JIATIAN SUN

jiatians@andrew.cmu.edu | 412-403-2091

EDUCATION

CARNEGIE MELLON UNIV.

B.S. in **Computer Science**
Minor in **Machine Learning**
Minor in **Animation & Special Effects**
Pittsburgh, PA | expected May 2020
QPA 3.78/4.0

SKILLS

C++ • Java • Python • SML • C
Matlab • Git • Tensorflow • Docker
Latex • JetBrains Editor: CLion, IntelliJ

COURSEWORK

17-214 Principles of Software Construction
15-418 Parallel Computer Programming
10-601 Intro to Machine Learning
15-463 Computational Photography
15-462 Intro to Computer Graphics
15-210 Parallel and Sequential Data Structures and Algorithms
15-150 Principles of Functional Programming

LINKS

Github: jiatiansun
LinkedIn: linkedin.com/in/jiatians
Devpost: https://devpost.com/jiatians/

EXPERIENCE

WOOBO | Software Engineering Intern
May 2018 - Aug 2018 | Beijing, China
Language: Python Tools: Tensorflow, Pytorch, Tornado and Docker
- Added English pronunciation grading web service to backend of Woobo, an intelligent education robot for children. Implemented scoring based on posterior probability gained from recurrent neural network in Deepspeech.
- Created an asynchronous web server for the pronunciation grading web service with Tornado.
- Containerized the installation of web server with Docker

RESEARCH ASSISTANT | CMU COMPUTER GRAPHICS GROUP
April 2018 - present | Pittsburgh, PA
Language: C++ Tools: Mitsuba, Matlab, openEXR, XML and Scons
- Develop rendering tools for computational photography with Professor Ioannis Gkioulekas.
- Expanded Mitsuba renderer by perspective projector, orthographic projector, coded perspective camera and orthographic camera.
- Improve the performance of projectors with importance sampling.
- Test separation of direct and global components of scenes using high frequency illumination in extended Mitsuba renderer.

TEACHING ASSISTANT | CMU School of Computer Science
August 2018 - present | Pittsburgh, PA
Teaching assistant for 17214 Principles of Software Construction

PEER TUTOR | CMU Academic Development
August 2017 - present | Pittsburgh, PA
Peer tutoring 15150 Principles of Functional Programming,
15213 Intro to Computer System, 21127 Concepts of Mathematics

PROJECTS

EULERIAN VIDEO MAGNIFICATION | 15463 Course Project
Fall 2017 | SIGGRAPH Paper Implementation
- Created a program that amplify hard-to-see movement in videos using Laplacian Pyramid and band-pass filter over time series of the video.

STYLE TRANSFER VR | One Hundred Seconds of Solitude
Fall 2017 | HackPrinceton
Language: Python Tools: Unity, Tensorflow, Android Studio, Matlab, Shell
- Created an app that displays VR scenes created from style transferred panorama image taken from real world, specifically style of autistic children drawing. Trained style with a convoluted neural network using TensorFlow.
- Constructed VR scenes and deployed scenes into app with Unity and Android Studio.