XINHAO SONG

Saint Louis, MO 63112 • 314-728-7413 • s.xinhao@wustl.edu • in/xinhao-song

EDUCATION

Washington University in St. Louis **St. Louis, MO**
Master of Engineering: Computer Science **May 2023**
- Relevant Coursework Completed: Advanced Algorithm, Computational Geometry, IOS Application Development

University of Electronic Science and Technology of China **Sichuan, China**
Bachelor of Engineering: Software Engineering **Jun. 2020**
- Received Scholarship for Outstanding Student

University of California, Berkeley **Berkeley, CA**
Exchange Program: Computer Science **Dec. 2019**
- Relevant Coursework Completed: Introduction to Artificial Intelligence, Machine Structure, Foundations of Computer Graphics, 3D Modeling and Animation

SKILLS

- **Programming Languages**: C#, Python, Java, Swift, C/C++, HTML, PHP, CSS, SQL
- **Unity Certified Associate**: Game Developer

EXPERIENCES

Unity Technologies, Inc **Shanghai, China**
Software Engineer **Oct. 2020 - Jun. 2021**
- Developed digital twin application to help with daily operation and maintenance of subway system by synchronizing device information with IoT database and providing interactive interfaces via **GUI** to control device status.
- Operated exhibition project and proposed technical solutions based on customer requirements. Built interactive **virtual reality** application on **Oculus quest2** to show construction process of building via procedural animation.
- Extended plug-in tools of **Revit, Navisworks, Sketchup** to support **Reflect** automated batch export. Designed a solution to resolve the exception-related block in the automated exporting process.

Digital Media Lab, UESTC **Sichuan, China**
Research Assistant **Sep. 2018 - Jan. 2019**
- Collected, preprocessed shadow puppetry images and used **TensorFlow** to build **Vgg16, Vgg32, ResNet** neural networks to classify shadow puppetry characters.
- Published “Shadow Puppetry Classification Using Convolutional Neural Networks” in 2018, 15th International Computer Conference on Wavelet Active Media Technology and Information Processing (**ICCWAMTIP**).

PROJECTS

Seed Geometric Phenotype Analysis **Jan. 2022 - Now**
- Evaluated the degree of symmetry of geometric phenotyping with **OpenCV** to distinguish two seed types by implementing **Planar-Reflective Symmetry Transform** algorithm.

Mobile Augmentation Reality Application **Nov. 2021 - Dec. 2021**
- Led group of four to utilize **RealityKit** to implement augmented reality mobile application that allows users to decorate environments with 3D models and gif pictures.
- Devised **protocol** to save and display gif image sequences while sharing and recovering scenes data from **Firebase**.

Game Development **Aug. 2020 - Oct. 2020**
- Completed fully functional puzzle game in eight weeks and oversaw the project process to ensure that all milestones were met. Involved with creating prototype of mechanism, designing levels and playtesting.
- Designed and implemented way-finding algorithm that forms core mechanism to allow player to move smoothly between disjoint points in three dimensions while they are connected in orthographic view.

Cloth Simulation using OpenGL Shader **Mar. 2019 - May. 2019**
- Worked with two others to speed up cloth simulation using an **OpenGL** shader and identified a new technique for transferring data into the shader, resulting in a 100% increase in cloth simulation speed.