

XINHAO SONG

Saint Louis, MO 63112 • 314-728-7413 • s.xinhao@wustl.edu • [in/xinhao-song](https://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 using **Unity 3D**, including created levels with **DOTween** procedure animations and **HLSL** shader, loaded scenes **asynchronous**, stored progress with **PlayerPrefs**.
- 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

- Built physical-based cloth simulation using **OpenGL** and speed up collision computation with **Compute shader** to transfer data into the GPU, resulting in a 150% increase in cloth simulation process.