

HANJIE (HOLLIS) LIU

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EDUCATION

Clemson University, Clemson, SC August 2018 - present
Ph.D., Computer Science M.S. expected 2020, Ph.D. expected 2022

- Research Interests: Visual Computing, Computer Graphics, Physically Based Simulation
- Demo Reel: youtu.be/Ma-2hOpMp2I

Drexel University, Philadelphia, PA June 2018
B.S., Computer Science, Minor Mathematics GPA 3.36/4.00, GRE Verbal 155, Math 166, Writing 4.0

- Honors Student, Undergraduate Outstanding Research Award in Computer Science

RESEARCH & PROFESSIONAL EXPERIENCE

Clemson University, Drexel University *Teaching Assistant* September 2014 - present

- Managing mini-lectures, question making and grading for topics on C, Python, MATLAB and Discrete Math

Drexel University Philadelphia, PA
Research Assistant, PFI:AIR (NSF Award #1640366) **a 3D Model Matching Project** July 2017 - May 2018

- Optimized a mesh alignment technique using graph theory along with a duplicate-removing mesh import algorithm
- Developed conversion algorithms between open polygonal meshes and watertight level set models using openVDB
- Developing an iOS app that converts a captured depth photo of an object into a 3D mesh for shape matching
- Wrote a Mac app for calling RESTful APIs, automated model similarity score testing and reporting (Swift)
- Organizing and maintaining C++, Python code base with rigorous version control

Research Assistant, **an Eye Tracking Project, an Image Analysis Project** March 2016 - September 2017

- Built a complete eye tracking solution from scratch that integrates with Aperio pathology software
- Architected a two machine setup using TCP sockets aiming to reduce distraction for subjects
- Developed a visual stimuli generator for testing human visual search capabilities (Python)
- Developed slide image segmentation algorithm to help diagnosing prostate cancer (Python)

SAP America Newtown Square, PA
QA Engineer/ Developer March 2015 - September 2015

- Efficiently tested new SAP internal software and system releases, including the global rollout of Windows 10
- Wrote comprehensive test cases based on the demand from upper management
- Developed mature communication skills and work ethics for professional working environment
- Led a 6-person development project building an inventory monitoring site with ASP.NET and SQL Server

PROJECTS

Github: [hollisliu](https://github.com/hollisliu)

AR Fire, Course Project, iOS ARKit app built with Unity (Group Project, youtu.be/V4nhiRlV2Zg?t=29) Fall 2018

- Uses iOS ARKit with Unity to simulate a variety of virtual fire scenarios in the physical world
- Educates and tests users to correctly pick from different types of virtual fire extinguishers and put out the fire

Spacetime Rhapsody, Swift Playground & iOS App (on App Store and Github, Individual Project) April 2017

- An app that helps beginners understand the effect of gravity outlined by Einstein's General Relativity
- Utilizes touch controls, SceneKit graphics and physics engine to render an intuitive interactive space model

Spread, an iOS App (on App Store, Individual Project) April 2016

- A productivity app that makes to-do list on iPhone as efficient as using sticky notes
- Leverages various Cocoa Touch APIs and Swift language features

iOS Vision Text Detection Demo (on Github with 107 stars, Individual Project) June 2017

- A sample app showcasing the text detection feature in iOS 11's new Vision framework
- Takes live video feed and draws boxes around text detected in real time

SKILLS & COURSEWORK

Python, C, C++, iOS Dev, Swift, Java, MATLAB
OpenGL, Unity, OpenVDB, Web, Sketch, L^AT_EX

Physically Based Animation, Virtual Reality Systems
Technical Character Animation, Machine Learning

AWARDS & ACTIVITIES

Apple WWDC Student Scholarship Recipient - May 2016
First Violin, First Chair, Clemson University Symphony Orchestra, Clemson University String Quartet