

HANJIE (HOLLIS) LIU

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EDUCATION

Clemson University, Clemson, SC

Ph.D., Computer Science

- Demo Reel: vimeo.com/316473958 and hollisliu.com

August 2018 - present

M.S. expected 2020, Ph.D. expected 2022

Drexel University, Philadelphia, PA

B.S., Computer Science, Minor Mathematics

- Honors Student, Undergraduate Outstanding Research Award in Computer Science

June 2018

GPA 3.36/4.00

PROJECTS

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

ARKit Facial Expression Capturing (a Class Final Project)

April 2019

- Wrote an iOS ARKit app to capture and save facial expression raw mesh data (Swift)
- Built a mesh processing pipeline with Python and Blender to recreate facial animation in Unity

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 (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 109 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

RESEARCH & PROFESSIONAL EXPERIENCE

Clemson University *Graduate Teaching Assistant*

August 2018 - May 2019

- Managing labs, office hours and grading for introductory computer science courses

Drexel University

Philadelphia, PA

Research Assistant, PFI:AIR (NSF Award #1640366) **a 3D Model Matching Project**

July 2017 - May 2018

- Designed 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

SKILLS & COURSEWORK

C++, Python, Swift, iOS Dev, Web, Sketch, Usability Test

OpenGL, Unity, SceneKit, OpenVDB, 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