

HANJIE (HOLLIS) LIU

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EDUCATION

- Clemson University**, Clemson, SC August 2018 - present
Ph.D., Computer Science expected 2023
- Research Interests: Visual Computing, Computer Graphics, Physically Based Simulation
- 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

- Gait4Dogs**, Senior Design Project, iPad app & Java Backend (Group Project) 2017 - 2018
- Uses Bluetooth accelerometers to capture and analyze the motion of an injured dog's legs for rehabilitation purposes
 - Iterative prototyping for intuitive visual designs based on functional requests from a veterinary stakeholder
 - Thoroughly specified separation of backend, network stack, cache layer, controllers and views
- 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 106 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, SceneKit, OpenVDB, Web, Sketch, L^AT_EX

Physically Based Animation, Parallel Architecture
Virtual Reality Systems, Machine Learning, Linear Algebra

AWARDS & ACTIVITIES

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