HANJIE (HOLLIS) LIU

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EXPERIENCE

Data Driven Bioscience (Y Combinator S18) Durham, NC
Software Engineer, Internship, **Pathology Info Rapid Entry Tool** June 2020 - August 2020
- Implemented contextual auto-fill and all-keyboard workflow for optimal data entry efficiency
- User feedback states an 150% boost in data entry speed (website developed with Angular and Django)
- Designed and built a companion data viewer with a backend that supports local paging, sorting and search
- Optimized the backend so that retrieving 1k complex relational records takes under 2 seconds
- Built a Python tool that converts existing spreadsheet data into relational database for powerful querying

Clemson University Clemson, SC
Graduate Research Assistant, advised by Dr. Jerry Tessendorf May 2019 - present
- Researching and developing geometry stitching methods blending 3D and high field fluid simulation
- Integrating OpenFOAM with in-house rendering software for **engineering purpose simulation**
- Implemented techniques to capture 3D volume and color via series of simultaneously taken images

Graduate Teaching Assistant: Host lab sessions and write automated grading scripts August 2018 - 2020

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 as well as conversion algorithms for mesh to levelset (C++)
- Built an iOS app that converts a depth photo of an object into a 3D mesh for shape matching

Research Assistant, **an Eye Tracking Project & an Image Analysis Project** March 2016 - September 2017
- Architected a two machine eye tracking solution using sockets aiming to reduce distraction for subjects
- Built a visual stimuli generator for testing human visual search capabilities (Python)
- Developed slide image segmentation algorithms to help diagnosing prostate cancer

SAP America Newtown Square, PA
Software Developer/QA Engineer, Internship March 2015 - September 2015
- Led a 6-person development project building a QA lab inventory monitoring site
- Authored comprehensive test cases and efficiently tested major SAP internal software releases

PERSONAL PROJECTS **Github: hollisliu**

Spread, an iOS App (on App Store) April 2016 - Present
- A to-do list iOS app that organizes tasks as conveniently and efficiently as sticky notes
- Re-written and published in 2020 with Swift 5, Core Data and new API support for best performance

ARKit Facial Expression Capturing April 2019
- A final project 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 Github) April 2017
- An interactive 3D app that helps users understand the effect of gravity outlined by General Relativity
- Utilizes touch controls, SceneKit graphics and physics engine to render an intuitive interactive space model

iOS Vision Text Detection Demo (on Github with 118 stars) June 2017
- A sample app showcasing the text detection feature in iOS Vision framework
- Takes live video feed and draws boxes around text detected in real time

EDUCATION

Clemson University, Clemson, SC August 2018 - present, Ph.D. expected 2023
Ph.D., Computer Science GPA: 3.21/4.00
- Coursework: Physically Based Simulation, Network Science, HPC Tolerance, Tangible TEI, Machine Learning

Drexel University, Philadelphia, PA Graduated: June 2018
B.S., Computer Science, Minor Mathematics GPA 3.36/4.00
- Pennoni Honors Student, Undergraduate Outstanding Research Award in Computer Science

Programing Skills: C++, Python, Angular, Swift, iOS Dev, Java, LaTeX, OpenVDB, OpenGL, Blender, Unity

AWARDS & ACTIVITIES

Apple WWDC Student Scholarship Recipient (around 5% acceptance rate) - May 2016
U.S. Software Copyright for *HSV Analysis of SIGMA 1.* Registration# TXu002073424. 10-30-2017
Vice Chair, Math and Computer Science Society (ACM chapter at Drexel), 2014 - 2016
First Violin, Clemson University Symphony Orchestra, Clemson String Quartet, Drexel Symphony Orchestra