Shiva Peri

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github.com/shivaPeri

EDUCATION

Carnegie Mellon University | Pittsburgh, PA — Dec 2022
Bachelor of Computer Science and Arts in Computer Science and Art

EXPERIENCE

Building Performance & Diagnostics Dept., Data Engineer | Pittsburgh, PA — Jan - May 2023
- Developed data pipeline in Julia to compile, clean, analyze, and visualize large-scale building energy usage data
- Implemented polynomial regression models, enabling accurate energy usage metrics energy savings insights
- Lead migration from R-based workflow to Julia, resulting in a 1000x performance boost

Autodesk Research, Robotics Engineering Intern | San Francisco, CA — May - Aug 2022
- Integrated Foxglove Studio into C++ adaptive robotics framework for live data visualization
- Utilized Google Protobuf serialization to forward ROS pub/sub messages to web server and local log file
- Implemented behavior tree editor using REST API to control robotic systems

Apple, Siri CI Prototyping Intern | Cupertino, CA — Jun - Aug 2021
- Collaborated on a design tool to document and preview Siri designs on multiple platforms; experience developing with Node.js, React, and Javascript
- Developed a design tool to explore audio spatialization in iOS using Unity3D and Headphone Motion API

Human Computer Interaction Institute, Research Assistant | Pittsburgh, PA — Feb - Sept 2020
- Developed an interactive full-stack web application, enabling researchers to design various navigation tile layouts for visually impaired individuals
- Manufactured fluidic hardware and magnetorheological fluid to develop haptic soft robotics

PROJECTS

SlicedBread, Browser-based CAD Software | Senior Capstone Project — Dec 2022 - Present
- Developed a full stack CAD program using React, Three.js, and Firebase, enabling users to create 3D designs
- Refactoring to incorporate a BREP backend in Rust for enhanced functionality, over the current CSG version

RL Animated Human Actors Pipeline | Rethinking Automation in Construction Project — Dec 2022
- Developed pipeline to animate human actors from Blender and Unreal Engine to Nvidia Omniverse
- Iterated pipeline to integrate with ROS and Omniverse ISAAC Sim for reinforcement learning applications

Learning 3D Mesh Interpolation | Learning Based Image Synthesis Final Project — May 2022
- Developed a deep neural network to learn the implicit neural representations of discrete meshes
- Model utilized DeepSDF architecture and Lipschitz regularization to interpolate between latent representations

SKILLS

Computer Vision · Deep Learning · 3D Modeling · CAD · Creative Coding · Functional Programming · Fullstack Development · Systems Programming · Physical Prototyping · Parametric Design · Game Design

C · C++ · Unity C# · Python · JavaScript · Typescript · Rust · Julia · Java

HONORS

School of Computer Science Dean's List — Carnegie Mellon University — 2019 - 2022
Summer Undergraduate Research Fellow (SURF) — Carnegie Mellon University — 2020