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# objective

to apply human-centered thinking and creative problem solving in technical disciplines

seeking opportunities in graphics engineering & software engineering

## education

## **University of Pennsylvania**

BSE, Digital Media Design Aug 2018 – exp. May 2022

#### relevant coursework

Physics Based Simulation Computer Vision Advanced Rendering Interactive Computer Graphics Intro. to Computer Systems Intro. to Algorithms Data Structures & Algorithms Math. Foundations of CS 3D Comp. Modeling & Sculpt.

#### activities & societies

Penn Labs
PennApps Organizing Team
The Daily Pennsylvanian
The Record Yearbook
Penn Student Agencies

#### skills

#### technical

C++, Python, MATLAB, Git, Java, C, OpenGL, Unity, Unreal Engine 4, OCaml, HTML/CSS, Processing, p5.js,

#### creative

Adobe Suite (Photoshop, Illustrator, InDesign), Sketch, Figma, Autodesk (Maya, Inventor)

### experience

#### **Amazon Robotics**

Software Development Engineer Intern

## Boston, MA

May 2021 - Aug 2021

### Sung Robotics (GRASP) Lab

Student Researcher

Philadelphia, PA

Jan 2019 – Present

- build simulation engine for modular truss robot by applying concepts in rigid body dynamics, kinematics, and 3D collision detection
- plan and implement underlying class structure for scalability and reusability
- design and engineer user interface for easy manipulation of truss components to identify optimal actuation pattern(s)
- awarded funding through Google exploreCSR (Computer Science Research)

#### **Penn Labs**

Philadelphia, PA

Sep 2019 – Present

Product Designer

- act as primary designer for Penn Mobile Portal, a web application to manage marketing campaigns shown to 4.8k+ monthly users of Penn Mobile
- design dashboards for moderator(s) and end users to approve and draft marketing campaigns, respectively
- conduct user research on and iterate designs for a complex filter system used to specify a campaign's target audience

### **Penn Student Design**

Philadelphia, PA

Web Developer & Graphic Designer

Aug 2019 - Aug 2020

- design and develop client-facing websites for local Philadelphia businesses, including firstServices and Singula Institute
- create custom graphic assets for updated and consistent brand identity

# projects

#### Material Point Method C++

Dec 2020

- simulation engine utilizing the Material Point Method (MPM) to numerically simulate the behavior of continuum materials
- features: user-input meshes & material properties, full MPM simulation pipeline

#### Path Tracer C++

Feb 2020 - Apr 2020

- rendering engine utilizing the Monte Carlo integration method to render custom 3D geometry and materials with global illumination
- *features:* photon mapping, multiple importance sampling, depth of field (thin lens camera), etc.

#### Mini Minecraft C++, OpenGL

Nov 2019 - Dec 2019

- miniature version of the popular first-person computer game, Minecraft
- features: player physics, game engine principles, procedurally generated nonplayer characters