IAN DOUGHERTY

COLLEGE STUDENT

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EXECUTIVE SUMMARY

20-year-old computer science major with a background in web development. Moving forward with a focus on algorithm design and application.

EDUCATION

Illinois Institute of Technology
Expected completion of co-terminal program in 05/24:
B.S. Computer Science
M.S. Computer Science

LANGUAGES & FRAMEWORKS

- JavaScript
- HTML/CSS
- React
- C
- C++
- Python
- Java

PROJECTS (SEE WEBSITE)

2D Rigid Body Physics Engine
Vanilla JavaScript & HTML5 Canvas
- Uses a multitude of algorithms to efficiently find collisions and produce a contact manifold
- Iterative impulse resolution to support box stacking
- Packaged into a framework to easily deploy in other projects

3D Engine
Vanilla JavaScript & HTML5 Canvas
- Realtime projection, plane ordering, and shading algorithms
- Quaternion rotation for efficient camera movement
- Built in mesh builder for the Utah Teapot

Realtime Multiplayer Game Framework
JavaScript using WebSockets in Node.js
- Manages connections and disconnections
- Serializes data to reduce ping times
- Seamlessly maintains client and server synchronization

WORK EXPERIENCE

Online Programming Instructor
iD Tech Camps | Summer of 2021
- Taught fundamentals of coding to grade school students
- Lectured for two hour long sessions five days a week
- Designed supplementary material to assist curriculum

Computer Graphic Animator
Freelance | 2019 - present
- Created HTML5 canvas animations for clients
- Animations have been used for student films and concert graphics