Mehek Jethani

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EDUCATION

Brown University, *Sc.B. Computer Science*, 4.00/4.00 GPA   Providence, RI | September 2020 – May 2024
Relevant Courses: Computer Graphics, Computer Vision, Computer Systems, Algorithms and Data Structures, Object-Oriented Programming, Linear Algebra, UI/UX, Real Time and Embedded Systems, Discrete Structures and Probability, Statistical Inference

Bergen County Academies, 3.95/4.00 GPA   Hackensack, NJ | September 2016 – June 2020

WORK EXPERIENCE

Brown University, *Undergraduate Teaching Assistant, Computer Graphics*   Providence, RI | June 2022 – Present
- Developed assignment code and specifications for Brown's CSCI 1230 computer graphics course in C++ and OpenGL
- Led a team of TAs in rewriting multiple course projects and created a new assignment with an interactive OpenGL demo
- Assist students in learning graphics concepts and writing code for rendering processes

Brown University, *Student Research Lead, Dash Project Team*   Providence, RI | June 2022 – Present
- Lead a team of research assistants in building a browser-based hypermedia system using the MERN stack and Typescript
- Delegate coding tasks, oversee weekly meetings and codebase updates, execute UI changes, and perform user testing
- Instituted a new system of peer code reviews to streamline the process of verifying updates pushed for production

Undergraduate Research Assistant, Dash Project Team   May 2021 - May 2022
- Added new features for audio/video playback and editing, digital handwritten note transcription, and a new table interface for viewing and modifying collections of documents

CMYK Digital Agency, *Web Development Intern*   New York, NY | September 2019 – June 2020
- Built HTML/CSS templates for client contracted web pages from design mockups
- Enhanced and maintained existing client sites

Morgan Stanley, *Technology Analyst Intern*   New York, NY | July 2019 – August 2019
- Restored and refined Enterprise Computing Services department website in HTML/CSS/JS and Bootstrap
- Maintained an online inventory of company database services

Kumon Math and Reading Center, *Tutor*   Emerson, NJ | August 2017 – January 2021
- Guided students ages 3-16 through math, reading, and writing concepts, administered exams, and managed grading

COMPUTER SCIENCE PROJECTS

Chess Board Recognizer   May 2022
- Created a Python OpenCV application that identifies chess moves from a physical board through a live webcam feed and displays board updates digitally
- Used Canny edge detection and Hough transforms to implement a fully transparent detection algorithm free of deep learning

Raytracer   October 2021
- Developed a raytracing program in C++ using QtCreator that renders scenes from scene graphs of primitive shapes
- Programmed the full Phong illumination model, multiple types of lighting sources, recursive reflections, ray cast shadows, and texture mapping
- Included interactive preview displaying OpenGL meshes with GLSL shaders to compute lighting and texture mapping

Machine Learning Flappy Bird Game   April 2021
- Implemented a Flappy Bird game using JavaFX with both a user playable mode and a machine learning mode
- Designed a neural network and "neuroevolution" algorithm of tuning weights to train populations of birds to play the game

Online Multiplayer Connect 4 Game   June 2020
- Created a website that generates uniquely keyed private multiplayer Connect 4 game rooms with player chat and adaptive gameplay to support up to 8 players per room
- Coded using HTML/CSS, JQuery, Express.js, socket.io and hosted on Heroku

SKILLS & INTERESTS

Programming Skills: C++, Python, OpenGL, OpenCV, Java, JavaScript, TypeScript, React.js, HTML, CSS, C, Node.js, Git, LaTeX

Technical Skills: Proficient in Blender, Adobe Photoshop, Adobe Illustrator, Figma, Final Cut Pro X, Microsoft Office, Google Suite
Familiar with WordPress, Adobe After Effects, Adobe XD

Interests: Violin, drawing, embroidery, videography, board games