# Mehek Jethani

Phone: (551) 777-1960 | E-Mail: mehekj2020@gmail.com | Website: https://mehekjethani.me

## 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, Discrete Structures and Probability, Linear Algebra, Statistical Inference

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

## SOFTWARE EXPERIENCE

**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 progress meetings and codebase updates, execute UI changes, and perform user testing

*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

## TEACHING EXPERIENCE

**Brown University,** *Undergraduate Teaching Assistant, Computer Graphics*          Providence, RI | June 2022 – Present
- Develop course content for Brown's CSCI 1230 computer graphics course
- Write new assignment code (C++ and OpenGL) and specifications to teach computer graphics skills

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

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

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