

Shubham Parab

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Education

New York University, Brooklyn

2024 – Present

Bachelor of Science in Computer Science

GPA: N/A

Coursework: Data Structures and Algorithms, Discrete Math

Technical Skills

Languages: Python, JavaScript, HTML, CSS, Svelte, Node.js, YAML

Web Technologies: Web Effects, Databases, APIs, REST, Graphics, Media Interfaces, Long Polling, Game Development

Software & Tools: Git, Jupyter Notebook, Visual Studio Code, Vercel, Deta Space

Experience

Lead Software Developer

2024 – Present

New York University Concrete Canoe Team

- Researched, designed, currently implementing sensor-based paddling optimization system to improve canoe racing to enhance slalom performance amongst 400+ teams.
- Designed motorized electric crate to transport 200+ lb canoe during competitions.

VR Interactions Developer

2024 – Present

New York University Metaverse for Education Project

- Constructed Unity models for machines in NYU's Makerspace lab to increase training accessibility.
- Developed interactive functionality for a Tormach 770M CNC Mill model for the Meta Quest Oculus headset.

Teaching Assistant

2023 – 2024

Lynbrook High School Computer Science Department

- Built multiple visualizers and learning tools for Java programming and AP Computer Science classes used by 150+ students, ran several classes of 30+ students, assisted students on labs and assignments.

Secretary and Head of Frontend Development

2023 – 2024

Lynbrook High School Web Development Club

- Conducted weekly presentations and tutorials in club meetings, worked with school organizations, supported members in personal project development.

Publications

Parkinson Disease Recognition using a Gamified Website: ML Development and Usability Study

2023

- Worked with Jerry Boster and Peter Washington to develop a web-based test and Random Forest Model to diagnose Parkinson's disease with an accessible and cost-effective approach.

DL Prediction of Parkinson's Disease using Remotely Collected Structured Mouse Trace Data

2024

- Enhanced preliminary Parkinson's disease detection study to collect more diverse medication-focused data and more robust tests, with ten times the participants and complex deep learning models.

Enhancing Automated and Early Detection of Alzheimer's Disease using Out-of-distribution Detection

2023

- Applied Out-of-distribution detection to brain MRI scan based 2D CNN models and image segmentation based Random Forest models, boosting Alzheimer's Disease detection and classification accuracy to 98% and 95%, respectively.

Projects

Pacman | *HTML Canvas, JavaScript, CSS, Node.js*

2022

- Graphics-based game featuring HD adaptive graphics, a instant ranked leaderboard, and replay, played by 700+.

R-squared Visualizer | *HTML, JavaScript, CSS*

2024

- Interactive visualizer and animation for R-squared statistics concept, built in collaboration with Mr. Kenny Iams, AP Statistics teacher of Lynbrook High School and used by 100+ AP students yearly.

AGP Beats | *HTML, JavaScript, CSS, Node.js*

2022

- Music player website with stream counts, playlists, queues, and synced music streaming, used for 2000+ song streams.

Binary Tree Visualizer | *HTML, JavaScript, CSS, Node.js*

2023

- Interactive visualizer for binary tree traversal algorithms, built for Mr. Mark Kwong and Mr. Brad Fulk, AP Computer Science teachers at Lynbrook High, and used by 100+ AP Students yearly.

Snake | *HTML, JavaScript, CSS, YAML*

2022

- Game of Snake, featuring adaptive HD graphics, a live ranked leaderboard, and an autopilot mode, played by 1500+.

Pseudocode Builder | *HTML, JavaScript, CSS*

2024

- Pseudocode builder for AP Computer Science Lipogrammer lab, built for Mr. Mark Kwong, AP Computer Science teacher at Lynbrook High, used by 100+ AP students yearly.