

Pratik Bairoliya

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EDUCATION

North Carolina State University

Raleigh, NC

Bachelor of Science: Double Major in Computer Science and Applied Mathematics

May 2025

- **Cumulative GPA:** 4.0/4.0
- **Park Scholar:** Full Ride Scholarship awarded to 1% of applicants for Character, Leadership, Scholarship, & Service
- **Course Work:** Data Structures, Algorithms, Computer Security, Database Systems, Software Engineering, Linear Algebra, Real Analysis, Abstract Algebra, Differential Equations, Quantum Computing, Artificial Intelligence
- **Clubs & Interests:** Volleyball, Lifting, Dancing, Chess; Bhangra Competitive Dance Team, NCSU HackPacks
- **Honors:** All Semester Dean's List, National Merit Scholar

SKILLS

- **Languages:** Python, Java, JavaScript, C, C++, GraphQL, HTML, CSS, MATLAB, Terraform, Groovy
- **Software:** Jenkins, AWS, Neo4j, Jira, Confluence, Git, Linux/Unix, OpenCV, Autodesk Fusion 360
- **Libraries:** PyTorch, NumPy, SciPy, Node, PyGame

PROFESSIONAL EXPERIENCE

Fidelity Investments

Durham, NC

Software Engineering Intern

May 2023 – Present

- Delivered a **Full Stack** app, supporting **400+** associates, that migrated and virtualized Fidelity's mainframe files and job calls to **AWS** through **Terraform**
- Developed a single source of truth for all **Mainframe API's**, by fabricating a **Neo4j** Graph Database
- Automated look up process for real time file analysis, reducing **5,000+** duplicate nodes
- Collaborated on an **Agile** team for the **Full Stack** application integration with **Jenkins** across Fidelity Enterprise

NCSU Computer Science Department - Advanced C Computer Programming

Raleigh, NC

Undergraduate Teaching Assistant

May 2022 – Present

- Taught intricate programming concepts to students and developed monthly custom **C** programming projects
- Enhanced the effectiveness of assignments by analyzing **Python** data reports on scores and assignments
- Hosted online **C** tutorials that increased average test scores by 12%
- Answered 1000+ questions on Piazza (Computer Science Forum) and debugged and clarified daily questions

NCSU Computer Science Department

Raleigh, NC

Data Analyst Researcher

May 2022 – August 2022

- Increased online student engagement by **32%** by developing parallel algorithms that enhanced **Matlab** performance
- Led a research team and utilized **Python** to plot student engagement trends on platforms such as LMS and Zoom
- Presented findings to **25** Faculty in Summer Research Symposium showcasing Matlab algorithms

InspireNC Non-Profit STEAM Organization

Raleigh, NC

CoFounder and Mentor, First Robotics 6908 Robotics Team

July 2021 – Present

- Oversaw nonprofit competitive team, involving **100+** students in STEAM projects and robotic fabrication
- Organized outreach events, free boot-camps, and daily workshop lessons, promoting STEAM education and teaching engineering principles during robot fabrication
- Taught **Java** programming principles to cohorts of **35** Students, and lead pseudocode workshops

TECHNICAL PROJECTS

Retro Games in AI (Python)

July 2023

- Utilized the **PyGame** library to develop retro games such as Snake, Tetris, Sodoku, and Ping Pong
- Developed a reinforcement learning algorithm to create an AI Player Agent that utilized **TensorFlow** and **PyTorch** to make game predictions through a **Deep Q-Network** and beat human game players within **82** game iterations

Wordle (C & Shell Script)

March 2023

- Developed a multi-threaded Wordle game in **C** implementing **openGL** library; improved efficiency by **59%**
- Generated game reports by utilizing **system calls**, and **message pipes** across multiple threads in **C**

Summer STEAM Agents - Educational Portal (Javascript HTML/CSS)

May 2022

- Built a Full-Stack login portal in **JS**, **HTML**, and **CSS** where students can access 50+ S.T.E.A.M intro courses
- Kept Backlog of credentials and had end-to-end encryption on **Firestore**