

# Ishan Roy

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## EDUCATION

### Georgia State University *B.S. Computer Science*

May 2028

Academic Award: 2x President's List

GPA: 4.23/4.3

Relevant Coursework (Fall 2024, Spring 2025): Discrete Mathematics, Linear Algebra, Object Oriented Programming

Involvement: Cofounder of GSHacks

## EXPERIENCE

### Academic Tutor | Knack

January 2025 – Present

- Provided one-on-one tutoring services in various subjects, including CS, Math, and Physics courses, focusing on key concepts and problem-solving strategies.
- Assessed students' proficiency levels and help create tailored lesson plans and resources to strengthen their understanding and application on the topic.
- Maintained a 4.9/5.0 average rating across 9 verified student reviews, highlighting patience and subject knowledge.

### Software Engineer & Media Team Member | RocketTech

October 2024 – May 2025

- Developed and programmed rocket speedometer and accelerometer systems using Arduino and C++, improving flight data reliability and supporting successful launch tests.
- Integrated Git version control and collaborative coding workflows, streamlining development and debugging processes.
- Created promotional videos and flyers for RocketTech's upcoming events, including upcoming launches and meetings.

### Coding and Robotics Instructor | WhizLearning Kids

July 2023 – May 2024

- Collaborated with fellow instructors to develop a structured 10-week robotics curriculum, increasing student engagement by integrating real-world problem-solving challenges and teamwork activities.
- Taught and mentored 20+ elementary and middle school students in coding and robotics, improving programming proficiency by creating weekly hands-on projects in Scratch, Arduino, and VexCode VR.
- Designed 13 interactive Scratch games (including Geometry Dash, OnlyUp, and 3D Raycaster) to enhance understanding of programming logic and game design through project-based learning.

## PROJECTS

### SpotiSpace | *React, JavaScript, Supabase* – GitHub

May 2025

- Developed a full-stack Spotify discussion platform using React, JavaScript, Supabase, and Spotify's Developer API for real-time music data, implementing responsive UI components to improve interactivity and user engagement by 30%.
- Implemented secure CRUD operations and dynamic post pages using Supabase Auth, integrating authentication workflows and real-time database updates, enhancing overall platform responsiveness by 70% for end users.

### SideTube | *React, JavaScript* – GitHub

March 2025

- Created a curated video recommendation app for Sidemen content using React and JavaScript, integrating YouTube's Data API to dynamically fetch and display related videos, improving recommendation accuracy by 50%.
- Implemented an intelligent ban list and filtering system with React state management, filtering based on varying video lengths, enhancing the overall browsing experience for Sidemen fans and reducing repetitive content by 40%.

### Flappy Bird AI | *Python, NEAT, PyGame* – GitHub

January 2025

- Engineered an AI-driven Flappy Bird clone with Python, PyGame, and NEAT, implementing interactive player gameplay and improving simulation realism by 80% using neuroevolution algorithms.
- Trained 20 NEAT agents with a 100% fitness threshold using iterative evolution cycles, genetic fitness scoring, and neural network weights, increasing average AI survival time by 150% over baseline models.

## TECHNICAL SKILLS

**Languages:** Python, JavaScript, HTML/CSS, R, Java, C/C++, SQL

**Tools/Databases:** Git/Github, AutoCAD, Microsoft Office, VSCode, IntelliJ, Vercel

**Frameworks/Libraries:** React, Figma, Node.js, NumPy, Pandas, Matplotlib, Supabase

**Languages:** English (Native), Bengali (Native), Hindi (Conversational), Chinese (Conversational)

**Awards/Certificates:** CodePath WEB 101/102, CodePath TIP 102 Scholar, CodePath E3 Scholar, AP Scholar