

# Bidipta Roy

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## Education

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### Boston University ~ Bachelor of Science in Computer Science

Boston, MA

- Relevant coursework: Data Structures and OOP, Software Engineering, Probability, Discrete Math, Computer Systems, Linear Algebra, Algorithms, Databases

Sep. 2023-May 2027

## Technical Skills

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**Languages:** Python, Java, JavaScript, C, HTML/CSS, x86 Assembly

**Technologies:** React, [Node.js](#), Express, Flask, Tailwind, REST APIs, MySQL

**Developer Tools:** Git, VScode, MongoDB Atlas, Vercel, Figma, Docker

## Employment

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### Swim Instructor - Long Island Swim School

Garden City, NY

- Taught group lessons focusing on stroke fundamentals, technique improvement, and water safety for ages 4–12 using personalized training plans; taught 50+ students

Sep 2021 - Aug 2023

### Swim Coach - SWIMtastic swim school

Hempstead, NY

- Coached youth and adult swimmers in 1:1 and small groups, creating individualized plans to improve stroke efficiency; managed roster of students flowing throughout the week for all instructors

May 2025 - Aug 2025

## Projects

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### Nogi BJJ Trainer | React, [Node.js](#), Express, MongoDB, Tailwind CSS

November 2025

- Built a full-stack web application with 19+ jiu jitsu technique modules across 6 categories, implementing RESTful API endpoints, and real-time quiz polling with live vote aggregation
- Integrated MongoDB cloud database to store profile info and comments, and secure API routes, deploying frontend on Vercel with CI/CD pipeline and backend on Node.js server with 99.9% uptime
- Designed responsive UI with Tailwind and React Hooks, implementing CRUD operations for comment system, session storage, and achieved 95+ Lighthouse performance score

### Spotter | Python, Flask, Javascript, HTML/CSS, MongoDB, OpenAI API, JWT

December 2025

- Implemented Flask backend with RESTful endpoints for challenges, workout logs, and activity feeds using a lightweight JSON store. Web app currently used by friends
- Collaboratively built a responsive multi-page frontend using JavaScript, HTML, and CSS, wiring UI forms to backend APIs
- Integrated OpenAI's API to generate personalized one-meal recipes based on user's preferences using structured JSON responses.

### NEWISE\_GIS | DS-X Hackathon | Python, HTML/JavaScript, Folium/Leaflet.js, GeoPandas, Pandas, Shapefiles

October 2025

- Developed an interactive web-based GIS platform featuring a navigable world map with dynamic choropleth visualizations of demographic and socioeconomic data (income, education, crime rates, life expectancy, population) across New England states and counties

## Leadership and Community Involvement

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### Boston University Jiu Jitsu Club - member

Jan 2025-Present

- Practice, teach, and develop the martial art of brazilian jiu jitsu and conditioning

### NY Monarch Jiu Jitsu Academy - member

May 2025-Present

- Train four days a week to develop advanced grappling technique and discipline

### BU Hack4Impact Club - member

Sep 2025-Present

- Participate in workshops and collaborative web projects using JS, HTML/CSS, React