

Saptarshi De

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EDUCATION

University of Houston

B.S (Honors) in Computer Science, Minor in Math and Finance

Academic Excellence Scholar, Dean's List, Distinguished Scholar's list

Houston, TX

May 2026

GPA – 3.8

TECHNICAL SKILLS

Languages: C/C++, Python, Java, HTML/CSS, JavaScript

Developer Tools: Git, Replit, RStudio, VS Code

Libraries/Frameworks: TensorFlow, ReactJS, NextJS, Numpy, KerasAPI, pandas, matplotlib

RELEVANT COURSEWORK

- | | | |
|----------------------------------|-----------------------------------|--|
| - Data Structures and Algorithms | - Introduction to Data Structures | - Computer Architecture and Organization |
| - Operating Systems | - Discrete Mathematics | - Statistics for the Sciences |

EXPERIENCE

Software Engineering Fellow

July 2024 - present

Headstarter AI

Houston, TX

- Building **5+ AI apps** and APIs using NextJS, OpenAI, Pinecone, StripeAPI with 98% accuracy as seen by **1000 users**
- Developing projects from design to deployment **leading 4+ engineering fellows** using **MVC design patterns**
- Contributing to **OpenSource** with an accepted pull request while being coached by Amazon, Bloomberg and Capital One engineers on **Agile**, CI/CD, Git and microservice pattern

Undergraduate Teaching Assistant

Jan 2024 – present

CS Department, University of Houston

Houston, TX

- Enhanced student learning by grading and proctoring for Introduction to C++, with **20% improvement** in score
- Conducted weekly office hours, provided personalized assistance to over **200 students**, bettering course reviews
- Facilitated 1-1 and group sessions to guide students on homework, labs, and projects helping over 50 students

Undergraduate Research Assistant

July 2024 - present

Honors College, University of Houston

Houston, TX

- Developing an **aspect-based sentiment analysis model** aimed to achieve a 15% increase in accuracy by utilizing state-of-the-art neural architectures to identify and extract aspects and model sentiment towards each aspect.
- Training an abstractive text summarization system by **leveraging transformer-based models** to generate concise summaries

PROJECTS

Sign Language Interpreter App | Hackathon Winner | Python, TensorFlow, React.js, JavaScript, HTML, CSS

Feb 2024

- Built an interactive app that captures real-time video and **analyzes** ASL gestures through **TensorFlow** and OpenCV
- Achieved **90% accuracy** and enhanced accessibility for the hard-of-hearing community using ReactJS and Python on a team of 4
- Engineered a robust ML pipeline that included **data preprocessing** and optimization, reducing model training time by **30%**

Tamagotchi Pet Game | C/C++

Apr 2023

- Created a game, which allows the user to buy new pets from 5 different species and interactively play, feed, and pet them
- Designed different pet (with ASCII art of animals) classes utilizing **OOP** fundamentals of **polymorphism**
- Implemented game mechanics through **parent-child** class relationships and the concept of **inheritance**

LEADERSHIP

Events Manager

Jan 2024 - present

Cougars in Data Science, University of Houston

Houston, TX

- **Organize and host** over 10 data science-related workshops for an audience of **500+ members**, ensuring **seamless event execution**
- **Collaborated** with guest companies and board members to provide accurate, engaging, and insightful information, fostering a **collaborative learning** environment and **ensuring event success**.

Curriculum Head

Jan 2023 – Dec 2023

The Bonner Leaders, University of Houston

Houston, TX

- **Managed and coordinated** with over 30 mentors, organizing and scheduling teaching sessions, and matching mentors with mentees to optimize learning outcomes
- **Developed and prepared** weekly content using MS Word and MS PowerPoint, covering critical and probable ACT exam questions for over 30 mentors to distribute to their mentees