

# Debarati Datta

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## EDUCATION

### California State University

*M.S. in Computer Science*

Long Beach, CA

Jan 2023 - Dec 2024

### SRM Institute of Science and Technology

*B.Tech in Computer Science and Engineering*

Chennai, India

Aug 2016 - July 2020

## EXPERIENCE

### Graduate Research Assistant

Feb 2024 - Dec 2024

*CSU Long Beach*

*Long Beach, CA*

- Conducted an in-depth investigation into the most effective techniques for integrating diverse data formats within large language models (LLMs).
- Despite the scarcity of information on the topic, successfully developed procedures for fine-tuning the LLava-mistral 1.6 model using LoRA technique, significantly enhancing the model's adaptability and efficiency by 30%.

### Math Tutor

Aug 2023 - Dec 2024

*CSU Long Beach*

*Long Beach, CA*

- Provided comprehensive instruction to undergraduate mathematics students, focusing on ensuring their understanding of complex concepts and improving their performance in examinations by 50%.
- Facilitated 1:1 or small group tutoring sessions, which helped students grasp the material better.

### Systems Engineer

Sep 2020 - Dec 2022

*Tata Consultancy Services*

*Bangalore, India*

- Crafted user interfaces as an Angular developer, improving user experience by 20%.
- Innovated reusable components and streamlined application management, reduced development time by 10%.
- Integrated front-end code with .NET backend services, optimizing data access via REST APIs for synchronous and asynchronous operations, enhancing overall system performance.
- Undertook comprehensive testing of individual software components to identify and resolve defects, ensuring all issues were addressed and rectified within the established development timeline.
- Managed codebase using Azure Devops and Git, orchestrating seamless deployments, automated builds, and comprehensive testing, fostering a robust development lifecycle.
- Proactively took the initiative to ensure the completion of assigned front-end tasks, often handling the workload independently to meet project deadlines whenever the team was understaffed.

## PROJECTS

### StoryTailor | *NextJS, FastAPI, GeminiAI 1.5*

(<https://youtu.be/w79ZNdRJ5bI>)

- Engineered an application that tailors a perfect story for the selected news in a very simplified form, suitable for children where A selected piece of news is converted into a story by Gemini in a summarized format.
- Submitted as part of Google AI Hackathon, 2024.

### Monet-video generator | *Python*

(<https://github.com/DebaratiD/MonetVideoGenerator>)

- Created a program towards my final Machine Vision project that generates a Monet-style background for any given video using LangSAM, an image-segmentation model and Instruct-Pix2Pix for image translation.

### AI Image Generating React Application |

(<https://github.com/DebaratiD/OpenAIMernApp>)

- Adapted the application to also work on Gin (Golang) instead of Express JS with a FastAPI server to use Stable Diffusion and improved response time by 80%.
- Built a full-stack application using React, Tailwind CSS, Express JS, MongoDB and Node JS for a robust backend and online image database Cloudinary as source of images to be generated.

## TECHNICAL SKILLS

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

**Frameworks:** React, Node.js, FastAPI, React, Angular, NodeJS, NextJS, Tailwind CSS, Gin (Golang)

**Developer Tools:** Git, Docker, VS Code, Agile SDLC, CI/CD

**Libraries:** Pandas, NumPy, Matplotlib, Tensorflow