PARTH SHROFF

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Education

Worcester Polytechnic Institute   Worcester, MA
Master of Science in Computer Science

Thadomal Shahani Engineering College - University of Mumbai   Mumbai, India
Bachelor of Engineering in Information Technology

Professional Experience

Software Developer   **August 2025 - Present**
MyEdMaster   *Remote, USA*
- Designing and building an **interactive**, game-based physics learning platform for high school students using **React and TypeScript**, implementing simulations where students input variables, make predictions, run calculations, and receive real-time correctness feedback to reinforce concept mastery.
- **Architecting** a scalable, serverless stack on **AWS** with S3 and CloudFront for hosting and Lambda with API Gateway for simulation and validation APIs, targeting **low-latency** responses and high availability to support real-time learning across devices.

Research Assistant   **February 2025 - May 2025**
Worcester Polytechnic Institute   *Worcester, Massachusetts*
- Engineered a distributed, AI-driven Web Application using **React and LangChain**, leveraging the **OpenAI API** to provide guided problem-solving for over 500 WPI students annually in complex thermodynamics.
- Developed a **Retrieval-Augmented Generation (RAG)** workflow that ingests domain-specific learning modules into a FAISS-indexed vector store, cutting model hallucinations to deliver precise, context-aware academic guidance.
- Built a scalable, serverless **cloud infrastructure** on **AWS**, using Lambda for microservice-based API interactions and **Amazon RDS** for robust **Database** management, ensuring high availability and performance.

Backend Developer Intern   **July 2022**
AKVI   *Mumbai, India*
- **Enhanced** operational efficiency by 50% by architecting a scalable **MySQL** database and an internal admin panel, demonstrating strong skills in **Database** design and management.
- **Improved supply chain transparency** and decision-making capability, measured by administrator feedback and operational reports, by developing a dynamic financial dashboard that visualizes real-time sales metrics across dates, regions, and sales performance rankings.

Machine Learning Research Intern   **July 2021**
Thadomal Shahani Engineering College (IEEE Xplore, ISBN: 978-1-6654-9264-5)   *Mumbai, India*
- **Engineered** an automated **data pipeline** to support predictive modeling by extracting applicant data from various sources and transforming it through a process of cleaning, standardization, and normalization of key metrics (GPA, GRE, TOEFL).
- Leveraged the pipeline's output to build a K-Means clustering model that forecasted postgraduate admission chances with **81.74%** accuracy, empowering students to make informed decisions while **reducing** research time and consultation expenses.

Lead Software Engineer   **February 2021 - December 2022**
No-Brainer Co.   *Mumbai, India*
- Engineered a **MERN** stack Chrome extension with an integrated deep learning captcha detection module to automate and streamline online shopping checkout workflows.
- Deployed **scalable APIs** for model inference and prediction services on **AWS** cloud infrastructure, architected to handle over 1,000 concurrent users.
- Drove a **25% growth** in monthly recurring revenue by implementing test driven development and **agile** practices for data driven web scraping and feature engineering pipelines.

Projects

Auction House | *Typescript, React.js, Node.js, PostgresSQL, AWS*   **September 2024**
- Developed a **scalable, serverless** online auction platform, measured by AWS performance metrics, using AWS Lambda, APIs, and S3 with PostgreSQL for data management.
- Enhanced **user security**, validated by reduced unauthorized access, by implementing **JWT-based** authentication middleware on a React and TypeScript frontend.
- Delivered responsive user experiences, reflected by positive user feedback and engagement analytics, through collaborative development of item listings, bidding features, and real-time updates.

Skills

Languages: JavaScript, TypeScript, Python, Java, C++, SQL, CSS, HTML
Database Systems: MongoDB, PostgreSQL, MySQL, Firebase
Version Control and Collaboration: Git, GitHub, Gitlab
Cloud and DevOps: AWS (Lambda, RDS, S3, ECS), Docker, Kubernetes, Jenkins, Azure, Terraform
Other Technologies: React.js, Node.js, Express, Angular, Django, Wordpress, PHP, Pytorch, Tensorflow
Additional Skills: Object-oriented Design, Distributed Systems, Algorithm Design, Data Structures, Software Development, Operating Systems, File Systems