Dhritabrata Mitra

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SKILLS

Frontend: React.js, Next.js, Redux, Zustand, TypeScript, JavaScript (ES6+), HTML5, CSS3, Tailwind CSS, Material UI (MUI), Responsive Design, WebSockets, and JSON
Backend: Node.js, Express, FastAPI, GraphQL, REST APIs, and Python
Cloud/DevOps: AWS (EC2, S3, CodeDeploy, CloudWatch, IAM, EKS), Docker, Kubernetes, Jenkins, CI/CD, Vercel, and Render
Databases: PostgreSQL, MySQL, and MongoDB
Testing/Tools: Jest, React Testing Library (RTL), Cypress, Playwright, ESLint, Prettier, Git, Webpack, Babel, NPM, Jira, Bitbucket, Postman, Confluence, Figma, and Slack
Security & Auth: JWT, and OAuth2 (via Google Cloud Platform)

WORK EXPERIENCE

Cognizant Technology Solutions
React Developer   Sept 2020 – Jun 2023

Project: Capital One
- Engineered secure banking applications for Capital One using React.js, TypeScript, Node.js, CSS3, and PostgreSQL, serving 2M+ users and ensuring compliance with financial regulations.
- Deployed React and Node.js services on AWS EC2 with AWS CodeDeploy, storing build artifacts in S3 and monitoring system health via CloudWatch, cutting release times by 50% and reducing deployment failures.
- Implemented CI/CD pipelines using Jenkins integrated with AWS CodeDeploy and IAM-based access controls, enabling secure, automated deployments that reduced manual errors by 30%.
- Containerized applications with Docker and orchestrated services using Kubernetes, enabling consistent deployments, automated scaling, and zero-downtime releases, which cut infrastructure costs and accelerated feature delivery cycles.
- Lowered production issues by 35% by writing unit tests (Jest and React Testing Library), and end-to-end testing (Cypress and Playwright) following Test-Driven Development (TDD) practices.
- Mentored 5 interns and conducted peer code reviews, establishing coding standards and supporting 10+ successful production deployments.

Project: Walmart
- Engineered a single-page e-commerce platform using React.js, TypeScript, Node.js, PostgreSQL, and Tailwind CSS, serving 3M+ monthly users and contributing to $15B+ in annual revenue.
- Redesigned product listing pages, transactional emails, and shopping cart UI using React, TypeScript, and Tailwind CSS, reducing customer support inquiries by 15% through clearer communication and streamlined workflows.
- Built and improved RESTful and GraphQL APIs to connect frontend and backend systems more efficiently, making data loading faster and reducing page errors.
- Resolved production and integration issues across frontend and backend systems by performing root cause analysis, reducing downtime from 12 hours per quarter to under 30 minutes, and cutting average production incidents from 250 to 20 per month.
- Enhanced advanced filtering, sorting, and pagination features, streamlining product discovery and contributing to a 10% lift in average session duration and a 20% increase in customer engagement on category pages.
- Reduced frontend load times by 35% and boosted checkout conversions by 20% by implementing lazy loading and Webpack code splitting.

React Developer Intern   Jan 2020 – Apr 2020
- Resolved 10+ critical bugs and developed 5+ new features for Walmart's website, improving application performance and reducing crash rates within 4 months.
- Collaborated with a 6-member Agile team, participating in daily stand-ups, sprint planning, and code reviews to deliver features ahead of schedule.

EDUCATION

Master of Science, Computer Science, 3.85/4 GPA   Aug 2023 - Apr 2025
Michigan Technological University

Bachelor of Technology, Computer Science, 3.39/4 GPA   Jul 2016 - May 2020
University of Engineering and Management

TECHNICAL PROJECTS

ChatAway - Real-time Chat App | Demo | Live Site | GitHub
- Built a real-time chat application to support both text and image messaging using Socket.IO and WebSockets, improving user interactivity and communication speed.
- Implemented secure authentication using OAuth2 via Google Cloud Platform and protected sensitive routes with JWT, ensuring only authorized users could access critical features.
- Integrated Zustand for global state management, handling real-time messaging, authentication status, socket connections, and persisting user theme preferences across sessions, resulting in a smooth and consistent user experience.
- Deployed the application on Render, ensuring fast load times and consistent uptime, contributing to a smooth user experience in production.
- Tech Stack: React.js, Node.js, Express, MongoDB, Cloudinary, Tailwind CSS, Render, and DaisyUI.

Personal Portfolio Website | Live Site | GitHub
- Developed a personal portfolio using Next.js, TypeScript, and Tailwind CSS, with Supabase backend for project data and contact form handling.
- Added an auto-sliding carousel to the endorsements section that cycles every three seconds, making the site more interactive and keeping visitors engaged.
- Deployed the site using Vercel, taking advantage of its global CDN to ensure fast and reliable performance for users across different locations.
- Tech Stack: Next.js, TypeScript, JSON, Git, GitHub, Supabase (PostgreSQL), and Tailwind CSS.

Plant Disease Detection | Demo | GitHub
- Built a full-stack application with React.js frontend and FastAPI backend to identify plant diseases (Early Blight, Late Blight, Healthy) from uploaded images.
- Trained a TensorFlow/Keras image classification model on a Kaggle dataset, achieving 95% accuracy through data preprocessing and model optimization.
- Integrated prediction API with a clean, user-friendly interface displaying disease classification and confidence scores.
- Tech Stack: Python, FastAPI, TensorFlow, Keras, React.js, JavaScript, and CSS3.

LEADERSHIP & INVOLVEMENT

- **Research Assistant** at Michigan Technological University   Jun 2025 – Present
- **Graduate Student Assistant** at Michigan Technological University   Aug 2024 – Dec 2024
- **Student Supervisor** at WADS Dining Services   Jan 2024 – Jun 2024
- Member of the **Indian Student Organization** of Michigan Tech   Aug 2023 – Apr 2025
- **Volunteer** in Cognizant Outreach events.   Sept 2020 – Jun 2023