

KOUSHIK GUDIPELly

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SUMMARY

Full-stack developer skilled in React, TypeScript, Node.js, Ruby on Rails, and cloud-native systems. Experienced in building scalable web applications, AWS-based deployments, and production-quality UI/UX. Strong foundation in algorithms, distributed systems, and machine learning, with hands-on experience in deep learning, neural networks, federated learning systems, and building end-to-end AI-driven applications.

EDUCATION

- **NC State University** - Master of Computer Science [GPA: 3.8/4.00] **Aug 2023 - May 2025**
Coursework: Data structures & Algorithms, Software Engineering, Database Management Systems, Object Oriented design & Development, Neural Networks, Computer Networks, Automated Learning and Data Analysis, Privacy in the Digital Age, Social Computing and DAI.
- **VNR VJiet** — Bachelor of Technology in Computer Science [GPA: 8.64/10.00] Jun 2018 - May 2022

TECHNICAL SKILLS

- **Programming Languages:** Java; Python; JavaScript; TypeScript; Ruby; C++; C.
- **Web Technologies:** Angular; ReactJS; Next.js; Node.js; HTML; CSS; Bootstrap; Ruby on Rails.
- **Databases & Tools:** MySQL; MongoDB; Docker; Prisma; Git.
- **Cloud / ML:** AWS; Machine Learning; Deep Learning; Neural Networks.

WORK EXPERIENCE

Full Stack Developer - Research Assistant, NC State University Jul 2025

- Contributed to redesigning Expertiza by migrating the monolithic Rails application to a Rails API backend with a React+TypeScript frontend, enabling a more modular architecture and faster feature delivery.
- Implemented new features across the backend creating APIs, models, and authorization logic and the frontend adding routing, forms, modals, and tables, which enhanced system functionality and user interaction.
- Improved shared data-fetching utilities to provide more reliable error handling and enable reusable API integrations, reducing client-side bugs.
- Reviewed and merged pull requests, ensured frontend consistency, and supported UI/UX improvements, which increased code quality and accelerated release cycles.

Frontend Developer - Full-Time, Deloitte USI, Hyderabad, India Jun 2022 - Jul 2023

- Developed frontend modules for the DAS A&M platform using Angular, .NET Core, and Bootstrap, and version-controlled the code with GIT, enabling faster feature rollout.
- Built and integrated reusable UI components with backend services to streamline data input and analysis workflows.
- Improved user interaction patterns and dashboard usability for internal data teams.
- Collaborated with cross-functional teams in Agile sprints, using GIT and Docker for continuous integration, to deliver new features that enhanced data-driven operations and improved reporting speed.

PROJECTS

Web Application Development (Project Management App - Next.js)

- Built a full-stack platform using Next.js, React, TypeScript, Node.js/Express, and Prisma.
- Designed a multiservice AWS deployment (EC2, RDS, Amplify, S3) with Cognito-based authentication.
- Implemented typed API integrations supporting dashboards, timelines, Gantt views, and analytics.

Machine Learning / Deep Learning (Emotion Detection System)

- Devised a novel emotion detection system employing deep learning techniques to accurately recognize seven categories of human emotions through facial expressions, capable of real-time predictions.
- Trained the application on an extensive dataset, using a highly optimized Convolutional Neural Network and VGG 16 models, achieving remarkable training and validation accuracies of 97.3% and 95.7%, respectively.

Web Application Development (Framework for Private ML - React)

- Developed a federated learning system enabling ML on private client data.
- Implemented backend services, REST APIs, schemas, and responsive UI for workflow and job monitoring.
- Designed scalable architecture using Python ML core, FastAPI microservice, and Spring Boot backend.