Sarthak Deshmukh

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SUMMARY

Full-Stack Developer with **3+ years** of experience designing and deploying scalable, cloud-native web applications using **Node.js, React, Next.js,** and **AWS**. Recognized for driving innovation in **GenAI**-powered **chatbot** development, with strong contributions to automation, performance optimization, and **AI-driven** user experiences. Skilled in building distributed systems, implementing **serverless** architectures **(Lambda, API Gateway, MySQL)**, and leveraging AWS **SageMaker** for **Machine Learning** integration. Experienced in **DevOps** practices, **CI/CD** pipelines, and infrastructure management on **AWS** and **Azure**, with a strong focus on **security**, observability, and user-centric design.

WORK EXPERIENCE

Full Stack Developer   **June 2021 – July 2024**
Accenture   *Mumbai, India*

- Developed and deployed scalable features for a **GenAI**-powered chatbot using Node.js (FastAPI) and React.js, integrated with **Jenkins** pipelines for **CI/CD** and **SQL** Server for relational data storage. Designed APIs to interface with **LLM**-driven intent handlers, enabling dynamic, context-aware user responses
- Engineered automation workflows using **AWS Lambda**, Step Functions, and EventBridge to periodically ingest and update chatbot knowledge base content, reducing manual effort by **50%** and ensuring real-time adaptation to evolving business requirements
- Enhanced and extended **Microsoft Bot Framework** capabilities, optimizing dialog flow logic and intent classification with pre-trained **Machine Learning** models hosted via **SageMaker** endpoints, achieving a **10%** improvement in response latency and increased intent accuracy
- Built **RESTful** APIs and media processing pipelines using **AWS API Gateway**, **Lambda** (Python runtime), **S3**, and **MySQL**, enabling efficient storage and transformation of user-generated audio and video files for conversational analytics
- Collaborated cross-functionally with **DevOps** and **Data Science** teams to integrate **AI**-driven insights into the chatbot's decision-making process, using **AWS Comprehend** for **sentiment analysis** and **CloudWatch**/X-Ray for end-to-end observability and performance tracing

Software Developer Intern   **July 2020 – March 2021**
IT-Networks Infosystems   *Nagpur, India*

- Engineered and optimized backend services using **Node.js, Express.js,** and **AWS Lambda**, replacing legacy PHP code and reducing application response times by **30%**, resulting in faster load times and improved user satisfaction
- Contributed to the full-stack development of scalable web applications using **React.js** (frontend), **Node.js/Express** (backend), and AWS Cloud services (**API Gateway**, **Lambda**, **RDS**), implementing serverless architecture that drove a **25%** boost in user engagement through high availability and performance
- Designed and deployed **RESTful** APIs using **Express.js** and **AWS API Gateway**, integrating with **MongoDB** and **MySQL** for flexible data storage and ensuring secure, scalable interactions between front-end clients and backend services
- Implemented **CI/CD** pipelines with **GitHub Actions** and **AWS** CodePipeline, automating build, test, and deployment workflows to ensure faster delivery cycles, reduced downtime, and enhanced **DevOps** efficiency

EDUCATION

Northeastern University   **Boston, MA**
Master of Science in Information Systems   *Sep. 2024 – Graduating April 2026*
Nagpur University   **Nagpur, India**
Bachelor of Engineering in Computer Science   *August 2017 – April 2021*

PROJECTS

AI Course Advisor | *React, Redux, Express, MongoDB, Node.js*   **Nov. 2024 – Dec. 2024**

- Developed an AI-driven course advisory web app using **Node.js, React.js, Redux, Material UI,** and **Llama-70b via Groq API**, delivering personalized academic recommendations with advanced **prompt engineering** techniques
- Implemented JWT-based authentication with HTTP-only cookies, enhancing application security and session management
- Integrated **Agentic AI** patterns and **machine learning** logic to track user behavior, analyze academic progress, and intelligently update course recommendations in real time
- Deployed on **AWS EC2** (Linux) with Nginx reverse proxy, automating builds and deployment via **GitHub Actions** and **AWS CLI** for seamless cloud operations

Online Examination Web Application | *NLP, AWS, Git, TensorFlow*   **May 2018 – May 2020**

- Engineered a scalable online examination platform supporting thousands of concurrent users, with **low-latency performance** and robust **monitoring** features
- Implemented real-time proctoring using **computer vision** techniques via the **OpenCV** Python library, enabling accurate eye tracking and behavioral analysis to uphold exam integrity
- Developed screen activity monitoring systems using **machine learning** and **deep learning** models, applying computer vision to detect anomalies and prevent cheating during assessments
- Provisioned and deployed **cloud infrastructure** on **AWS** using **Terraform**, ensuring high availability, auto-scaling capabilities, and **fault-tolerant** performance under peak loads
- Applied **Natural Language Processing** for automated question processing and grading workflows, and used **Git** for secure **version control** of question banks and application logic

TECHNICAL SKILLS

Languages: Java, Python, C#, JavaScript, TypeScript
Frameworks: React, React Native, Redux, Next.js, Express.js, Node.js, Material-UI, React Query, Jest, CSS
Developer Tools: Amazon Web Services (AWS), Lambda, EC2, S3, SQS, SNS, SES, Kubernetes, Docker, Terraform, CloudWatch, Git, JIRA
Other: RESTful APIs, RDBMS, CI/CD Pipelines, Firebase, Linux, Agile Development, Software Development Life Cycle (SDLC), Prompt Engineering
Certifications: Azure Developer Associate, Azure Fundamentals, Microsoft Certified Professional