

# Aliraza Shinde

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## Education

**Clemson University, M.S. in Computer Science**

**Dec 2026 (expected)**

**Coursework:** Cloud Computing Architecture, Machine Learning, Deep learning, DBMS, AI in Software dev, Information Retrieval

**University of Mumbai, B.E. in Computer Science**

**Aug 2018 - Aug 2022**

## Technical Skills

**Languages:** Java (Java 17, J2EE), Python, JavaScript (ES6+), TypeScript  
**Backend:** Node.js, Nest.js, Spring Boot, FastAPI, Flask, REST APIs  
**Frontend :** React.js, Next.js, Angular, HTML, CSS, Tailwind, Bootstrap, Bulma, Vue.js  
**DB/Cloud:** MySQL, PostgreSQL, MongoDB, Prisma ORM, AWS (S3, EC2, Lambda, DynamoDB), Redis, NoSQL  
**ML/Visualization:** PyTorch, Scikit-learn, NetworkX, R, Power BI, Tableau  
**DevOps:** Terraform, Docker, Amazon CloudWatch, ELK, Jenkins, Kubernetes, ECS, EKS, Kafka, RabbitMQ

## Work Experience

**Graduate Student Assistant, Data Visualization lab, Clemson University**

**Aug 2025 - Present**

- Created a web scraping user guide, cutting new analyst onboarding time by 20%, by using **BeautifulSoup and Selenium**.
- Analyzed **150+ library event records**, improving visibility into department and individual-level contributions, by applying Python-based EDA.
- Identified patterns in audience engagement, by applying **NLP techniques**, sentiment analysis, and content categorization on posts.
- Built visual dashboards and trend reports, improving research dissemination and stakeholder understanding, by leveraging Python (pandas, seaborn) and data storytelling methods.

**System Engineer, Infosys - Airbus**

**Oct 2022 - Dec 2024**

- Designed an automated CI/CD pipeline to reduce manual deployment using **AWS CodePipeline**, CodeBuild, and CodeDeploy.
- Integrated Apache **Kafka messaging** into microservices for reliable event-driven communication reducing data latency by **25%**
- Reduced query turnaround time by **30%** by consolidating security authentication services into a single call
- Boosted API reliability for 5 cross-functional teams by co-leading **ODATA service development** for ERP integration.
- Improved data fetch performance by **20%** by optimizing SQL queries with **CDS views** for efficient data modeling.
- Optimized query response time by 30% by using paging and sorting with **Spring Data JPA**.
- Mitigated parameter tampering attacks by route masking with **NGINX reverse-proxy**, reducing exposed endpoints by 40%
- Delivered 10+ features on schedule by working in **Agile Scrum** teams, actively contributing to **sprint planning**, backlog refinement, and retrospective meetings.
- Reduced frontend maintenance efforts by **18%** by designing and implementing **reusable React components** and applying **Redux**.

## Projects

**GNN text summarizer** A GNN summarizer using NetworkX and pytorch geometric

- Built a scalable **Graph-to-Sequence summarization pipeline** on 10k+ legal/medical documents using **PyTorch Geometric GNNs + BART**, improving **ROUGE-1 accuracy by 14%**.
- Generated domain-specific embeddings, improving semantic representation of complex legal corpora by 30%, through implementing mean-pooled Legal-BERT embeddings using Hugging Face's **AutoTokenizer and AutoModel**.
- Optimized preprocessing for large-scale legal datasets, supporting reproducible training and evaluation pipelines.

**YelpCamp** A full stack application using MERN stack

- Built a full-stack campground directory app with **Express, Node.js, and MongoDB**, and authentication via **PassportJS**.
- Enhanced security by integrating **Helmet** and input sanitization, reducing session hijacking and XSS vulnerabilities by **40%**.
- Increased user engagement by **25%** by integrating geospatial mapping and real-time location services into the platform.

**File Upload Module** A plug-in module using Nestjs and Cloudinary

- Built a **NestJS project** with **mimetype validation**, preventing invalid file submissions and ensuring data integrity.
- Integrated **Cloudinary API** with configurable environment variables, enabling seamless cloud storage and scalable management.
- Implemented **Prisma ORM with Postgres** to persist upload metadata, improving searchability and auditing.

**Rate Limiter with Redis** A module to add rate limiting for any api

- Engineered a distributed **API rate limiter** with **NestJS + Redis**, supporting per-user, per-IP, and per-endpoint quotas.
- Reduced API overload incidents by **70%** by providing dynamic quota configuration and customizable request thresholds.
- Improved system reliability by adding a **/health endpoint** and containerizing the stack with **Docker Compose**.

## Publications

**AI in Entertainment - Using Cosine Similarity**

**Jan 2023**

IEEE Xplore (Link)