Jahnavi Bellapukonda

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Education

Master of Science, *Texas Tech University* 08/2023 - 05/2025 | Lubbock, USA
Computer Science

Bachelor of Technology, *JNTU* 06/2018 - 06/2022 | Kakinada, India
Computer Science and Engineering

Technical Skills

- **Programming Languages & Scripting:** Java (MicroServices, Spring Boot, OOP) Python (OOP, multithreading, exception handling), JavaScript (ES6+), Bash, SQL (advanced querying, joins, indexing), C, C++, R
- **Frameworks & Libraries:** Django, Flask, FastAPI, React.js, Redux, Bootstrap, HTML5, CSS3, AJAX, Jinja2, SQLAlchemy
- **Databases & Data Storage:** PostgreSQL, MySQL, MongoDB, Redis, SQLite, Azure SQL Database, Data Modeling
- **Cloud, DevOps & CI/CD:** AWS (EC2, S3, RDS, Lambda, CloudWatch, IAM), Azure (App Services, Blob Storage), Docker, Docker Compose, Jenkins, GitHub Actions, Azure DevOps, Maven, Poetry, Shell scripting
- **Development Tools & Best Practices:** Git, GitHub, GitLab, Bitbucket, Postman, Swagger/OpenAPI, PyTest, unittest, Selenium, JIRA, Confluence, Agile (Scrum/Kanban), CI/CD pipelines, TDD, Clean Architecture, SOLID principles, Linux

Professional Experience

Software Engineer, Adobe 08/2024 – Present | Remote, USA

- Built and optimized production-grade customer-facing systems using TypeScript, React, REST APIs, and AWS, focusing on performance, scalability, and reliability.
- Implemented efficient data flows and state management between distributed services, reducing latency and improving system responsiveness.
- Refactored performance-critical components and contributed to CI/CD pipelines, automated testing, and code quality standards.

Software Engineer, Nielsen, *TCS* 07/2022 – 07/2023 | Bangalore, India

- Designed and supported large-scale production systems using Java, Python, and SQL to automate high-volume data processing workflows.
- Improved system stability and throughput by refactoring legacy code, optimizing algorithms, and tuning database queries.
- Supported cloud-based data pipelines and monitoring using AWS services, improving reliability and observability.

Software Engineer, *Sonata* 05/2021- 06/2022|Remote,India

- Built and enhanced frontend interfaces using React and modern JavaScript, focusing on usability and performance.
- Developed end-to-end web applications integrating frontend, backend services, and databases to support scalable customer-facing features.
- Optimized database access and query performance across PostgreSQL and SQL Server, reducing latency by 30%.

Certifications

- AWS Cloud Practitioner
- Google Data Analytics
- Microsoft Azure AI Fundamentals

Academic Projects

- **Retrieval Augmented Generation:** Developed a LangChain/LlamaIndex-powered system to answer queries from PowerPoint content, elevating retrieval accuracy by 30% through vector similarity scoring and query expansion across 200+ slides.
- **YouTube video Summarizer:** Built a pipeline using yt-dlp, FFmpeg, and CUDA-accelerated Whisper to convert YouTube videos into summaries, achieving over 95% transcription accuracy and reducing manual review time by 70%.
- **Cross-Sequence MRI Translation Using DUCK-NET and U-NET**: Designed and evaluated DUCK-NET and U-Net with attention mechanisms for cross-sequence MRI translation, achieving a PSNR of 29.4 and SSIM of 0.91, elevating spatial consistency by 15%.
- **Web based Book Recommendation System:** Devised a web-based Book Recommendation System using collaborative and content-based filtering, boosting recommendation accuracy by 25% and enhancing user engagement through personalized suggestions.
- **News Recommendation System Using Prompt Learning:** Developed an AI-powered News Recommendation System using Prompt4NR, leveraging prompt learning techniques to deliver context-aware suggestions and improve recommendation accuracy.
- **Fire Free Forest (IOT):** Created and prototyped an IoT-based forest fire detection system using Arduino, integrating temperature, humidity, gas, and flame sensors with GSM modules to enable real-time alerts and long-range data transmission to emergency services.