Akshayani Ponugoti

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Work Experience

Graduate Research Assistant, *Arizona State University – Arizona, USA*   Jan 2024 – Dec 2024

- Developed AI system for scientific paper summary with GPT-3 and T5, increasing content efficiency by 40%.
- Fine-tuned transformer models on text datasets, boosting summarization accuracy and coherence by 30%.
- Applied advanced NLP techniques with spaCy and HuggingFace Transformers to improve model quality.

System Engineer, *Tata Consultancy Services – Telangana, India*   Jul 2022 – June 2023

- Designed and implemented RESTful APIs for the Organization module within a distributed microservices architecture, ensuring modularity and seamless integration with other services.
- Reduced developer effort by 80% with an optimized organization search using advanced filtering and indexing.
- Engineered secure user authentication and profile management services using JWT-based flows, deployed on AWS EC2 with full CRUD capabilities.
- Built OTP-based password reset functionality, improving user security and reducing support queries by 40%.
- Developed a customer feedback and support ticketing API for real-time issue reporting, boosting customer satisfaction by 60% and improving client retention through faster resolution cycles.

Web Developer Intern, *LetsGrowMore – Telangana, India*   Oct 2021 – Apr 2022

- Created responsive apps with React.js and Angular, optimizing components to reduce page load time by 40%.
- Built modular, dynamic UI components with React Hooks and RxJS, enhancing development maintainability.
- Designed mobile-first, user-friendly interfaces with HTML, CSS, and Bootstrap, improving engagement by 25%.

Projects

Task Management App | React.js, Node.js, Express, MongoDB, Tailwind CSS   Jan 2025

- Executed a task manager with real-time updates, reducing tracking time by 40% and improving productivity.
- Optimized REST APIs and MongoDB queries, achieving 95% API efficiency and supporting scalable operations.

Property Search Platform | Java, Spring Boot, Scala, PostgreSQL, Elasticsearch   Aug 2024

- Built a scalable search engine with PostgreSQL, Elasticsearch, and JWT, supporting 10K+ listings and filtering.
- Reduced latency by 45% and improved accuracy by 30% through advanced queries and distributed indexing.

Secure Chat Platform | Flask, WebSockets, Redis, JWT   Nov 2023

- Architected a secure chat system with WebSockets and Redis, supporting 200+ users and persistent sessions.
- Strengthened system security by integrating JWT-based access control and deploying authentication workflows.

Image Semantic Segmentation | Python, TensorFlow, Keras, OpenCV   May 2022

- Implemented a U-Net model for segmentation on Cityscapes, achieving 89% mIoU for pixel-level analysis.
- Enhanced lane detection accuracy by 15% through data augmentation and OpenCV-based preprocessing.

Technologies

Programming: Java, Python, JavaScript, TypeScript, React, SQL, HTML, TailwindCSS
Backend: Spring Boot, FastAPI, Flask, Django, Node.js, RESTful APIs, GraphQL
Databases: PostgreSQL, MongoDB, Redis, MySQL
Cloud & DevOps: AWS (Lambda, S3, EC2, DynamoDB), Docker, Kubernetes, Terraform, CI/CD, Apache Kafka
Tools: Git, Jira, Visual Studio, Selenium, JUnit, PyTest, Postman, Agile/Scrum

Education

Arizona State University   Arizona, USA
Master of Science, Information Technology (GPA: 3.81/4.00)   Aug 2023 – May 2025

Jawaharlal Nehru Technology University   Telangana, India
Bachelor of Technology, Computer Science (GPA: 3.52/4.00)   Jul 2018 – May 2022