Akash R Chavan

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PROFESSIONAL SUMMARY

- **Full stack developer** with experience in web application development using **Node.js, JavaScript, TypeScript, React**, and **Django**.
- Expertise in modern **JavaScript** ecosystem: **Node.js, TypeScript, React,** and **Express.js.**
- Proven track record of architecting and implementing scalable solutions across the entire software development lifecycle.
- Advanced proficiency in front-end technologies**: React, Redux** and **Styled-Components.**
- Skilled in building responsive and progressive web applications **(PWAs)** using **HTML5, CSS,** and **Service Worker API.**
- DevOps enthusiast with hands-on experience in **CI/CD pipelines** using **GitHub Actions, Travis, GitLab,** and **Azure DevOps.**
- Hands-on experience with **test-driven development (TDD)** with expertise in **Jest, Mocha,** and **Cypress.**
- Proficient in designing **RESTful APIs** and **microservices architectures.**
- Experience in **AI integration,** leveraging **Large Language Models (LLMs)** like **GPT, BERT, LangChain** for cutting-edge applications.
- Experienced in both **SQL (SQL Server)** and **NoSQL (MongoDB)** database systems.
- Cloud computing specialist with expertise in **AWS** services including **Lambda, EC2,** and **SageMaker.**
- Containerization advocate skilled in **Docker** and **Kubernetes** for efficient application deployment and scaling.

PROFESSIONAL EXPERIENCE

FOSSEE GitHub — Feb 2019 – May 2022

Senior Software Engineer

- Developed Yaksh, an e-learning platform using **Python**, **Django**, **Django Rest Framework**, and **AWS**.
- **Improved platform performance by 98%** through query optimization and integrated Memcached to **reduce database load by 40%**.
- Created a progressive web application with Vue.js, **increasing user engagement by 40%** through enhanced interaction features such as chat and feedback systems.

IEOR IIT Bombay — June 2020 - Oct 2020

Software Engineer

- Implemented timetabling solutions using **Python**, **Java**, **Pandas**, **NumPy**, and **Bash**; **reduced scheduling errors by 50%** and **enhanced operational efficiency by 20%**.
- Created Python scripts to automate data workflows, ensuring accurate data manipulation and reporting, leading to a **50% reduction in processing time** and **enhancing team productivity by 35%**.

Virtual Labs IIT Bombay GitHub — Oct 2017 – Feb 2019

Software Engineer

- Created a remote-triggered Single Board Heating System (SBHS) virtual lab using Django, Flask, and JavaScript, **reducing manual intervention by 30%** and **increasing student engagement and lab efficiency by 35%**.
- **Improved system efficiency and reliability by 40%** by implementing a load-sharing master-slave architecture with Raspberry Pi's and a centralized database, eliminating data inconsistency.
- Developed a lightweight Flask API for Raspberry Pi's, refactored the codebase for Python 3 and PEP8 compliance, and improved the Slot Booking System, **decreasing booking errors by 30%**

Tudip Technologies — Aug 2016 – Oct 2017

Software Engineer

- Developed scalable backend services using **Python**, **Flask**, and **PostgreSQL** for various client projects.
- Design and implemented **RESTful APIs**, integrating with third-party services, and ensuring high performance and security.
- Mentored interns, conducted **code reviews**, and provided technical guidance on best practices.
- Coordinated with cross-functional teams to gather requirements, plan sprints, and deliver features on time.

TECHNICAL SKILLS

Programming Languages: Python, JavaScript, TypeScript, C/C++, Java, Go(golang)

Frameworks and Libraries: Node.js, Express.js, Django, Flask, FastAPI, React, Vue, GraphQL, REST, Next.js

Databases: MongoDB, MySQL, PostgreSQL, DynamoDB, Redis

Cloud and DevOps: AWS (EC2, S3, Lambda, CloudFront, CloudFormation, SQS), CI/CD/ DevOps, Docker, Kubernetes, Microservices

Testing and Methodologies: Pytest, Unittest, TDD, BDD

Tools and Platforms: Trello, Kanban, Git, Agile

Data Processing and Machine Learning: PyTorch, TensorFlow, Keras, Transformers, Kafka, LLMs, OpenAI API, LangChain, Deep learning, LLMOps

EDUCATION

California State University, Los Angeles

Master of Science in Computer Science – GPA 4.00 | Los Angeles, California — May 2024

Deogiri Institute of Engineering and Management Studies, Aurangabad

Bachelor of Engineering in Computer Science and Engineering - GPA 3.46 | Aurangabad, India — Jul 2016

PROJECTS

Sentiment Analysis using BERT and Transformers GitHub

- Developed a sentiment analysis model leveraging **BERT** and **Hugging Face Transformers**, achieving an accuracy of 92%.
- Scraped over 18,000 reviews from Google Play for multiple apps and saved them to a CSV file, ensuring comprehensive data collection.
- Incorporated the BertModel to build a sentiment classifier, followed by training the model with the prepared data.
- Created a REST API for sentiment analysis using the trained BERT model, enabling easy integration and real-time analysis capabilities
- Leveraged **Python, pandas, google-play-scrapper, FastAPI**, and **PyTorch** for data processing, web scraping, API development and model training.

Traffic Sign Classification using Transfer Learning GitHub

- Built an image classification model using **Torchvision** to classify traffic signs.
- Leveraged transfer learning techniques to enhance the classification of traffic sign images.
- Fine-tuned a pre-trained model to accurately classify raw pixel data of traffic signs.
- Utilized a dataset containing 50,000 annotated images representing over 40 different traffic signs.
- Achieved a training accuracy of 99%, demonstrating the model's effectiveness.

Fashion Trends Chatbot GitHub

- Developed a custom chatbot leveraging **OpenAI's GPT** model to provide insights into 2023 fashion trends.
- Expanded the chatbot's capabilities to handle multi-turn conversation and **maintain context** over multiple interactions.