SASI KIRAN KANDURI

sasik.kanduri@gmail.com | (947) 243-5008 | linkedin.com/in/sasi-kiran-kanduri

EXPERIENCE

Office of Water Programs, Sacramento State **July. 2023 – Present**
Software Engineer Intern Sacramento, USA

- Designed and implemented backend microservices in python leveraging frameworks like Flask, FastAPI, SQLAlchemy, Alembic, Pandas and Matplotlib for building REST APIs that can perform data manipulation, retrieval, statistical analysis and data visualization in storm water analytics application for the California Department of Transportation and water quality testing application for the State Water Board of California.
- Managed database operations, including creating complex procedures, triggers, and views, as well as performing necessary database rollbacks.
- Handled frontend web design and development using React, incorporating advanced concepts such as state management, hooks, and routing. Utilized the Tailwind CSS framework to create visually appealing and responsive user interfaces.

Aaseya **Aug. 2020 – Jun. 2022**
Software Engineer Hyderabad, India

- Contributed to web application development, database management, and requirement analysis for judiciary services for the Ministry of Justice, Saudi Arabia.
- Developed secure REST APIs in Python to facilitate the exchange of court data among various entities within web-based court management system applications.
- Implemented crucial software modules in the application for court operations with sensitive data like hearings, case registration and admin tools in the using a combination of Java and the PEGA platorm for low-code software.
- Implemented an email notification system using RabbitMQ message broker, making it accessible for various applications within the organization.

PROJECTS

Brain Tumor Detection | Deep Learning, TensorFlow, Python, Flask, MLOps

- Developed a web application using React and Python that processes MRI scans to classify three types of brain tumors.
- Utilized advanced image classification techniques such as Convolutional Neural Networks (CNNs), Vision Transformers, Fast-RCNN, and YOLO for models trained with around 10000 T1-Weighted MRI scans.
- The interface enables users to upload MRI scans for diagnostic prediction and ingests the results back into the dataset facilitating real-time training and evaluation, ensuring continuous improvements in precision and robustness.

Social Network | Distributed Computing, AWS, Docker, Spring Boot, Encryption, React.

- Built a basic social network web application with a distributed architecture, separating metadata from actual data and authentication, using Java Spring Boot for backend services with Diffie-Hellman key exchange for encryption, and React for the frontend.
- Dockerized the application's systems, including frontend, backend, and authentication servers, using Docker Compose and also made it scalable with application load balancing on AWS with Elastic Load Balancing (ELB).

Hash-based Proof of Stake | Blockchain, Consensus Protocols, Python, Sockets, Multithreading.

- Conducting research and implementation of a novel proof-of-stake based consensus algorithm aimed at mitigating the centralization issues inherent in traditional proof-of-stake protocols, such as the coinage algorithm.
- Implemented a prototype to simulate a blockchain system of 100 nodes to test the algorithm, utilizing python and frameworks like p2pnetwork, sockets and also RSA encryption to ensure efficient and secure transactions.
- Achieved initial results with 10-15% improvements in decentralization measures of Fairness and Entropy.

EDUCATION

California State University, Sacramento **Aug 2022 – Dec 2024**
Master of Science in Computer Science. Sacramento, USA

CVR College of Engineering **Aug 2013 – Apr 2017**
Bachelor of Technology in Information Technology. Hyderabad, India

SKILLS

Languages: Python, Java, C++, HTML/CSS, JavaScript, Php, Go, Linux.
Developer Tools/Frameworks: Git, Docker, VSCode, IntelliJ, Maven, Spring boot, Android Studio, Symfony, Tensorflow, pyTorch, React, Flask, GraphQL, Pandas, PySpark, MSSQL, AWS, MongoDB.