Suryaveer Singh

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Objective

Results-driven and highly skilled full-stack developer with 6+ years of experience in designing and implementing robust and scalable applications. Proven ability to lead and contribute to all phases of the software development life cycle. Expertise in Java, python, Spring Boot, RESTful APIs, SQL, event-driven architecture (Apache Kafka, RabbitMQ), and microservices architecture. Seeking a challenging position to leverage my expertise in Java/python and full-stack development to drive innovative solutions.

Professional Experience

Software Engineer July 2016- June 2022

Unisys

- Led a team in delivering an Identity and Access Management (IAM) front-end with **microservices** architecture. Employed **Java**, **Node.js**, and **Nginx** for seamless integration, ensuring high availability and load balancing
- Engineered a secure Remote Working Kit on **Azure Cloud Services(App Service, Functions, Blob Storage, Key Vault, Cosmos DB, Active Directory)**, leveraging **Node.js**, **HTML5**, and **JWT** for robust authentication and streamlined software distribution, enhancing remote work safety
- Collaborated with cross-functional teams to design and implement high performing, scalable **RESTful APIs**
- Developed an on-premises passenger facilitation solution for airports with iris detection, using **Angular**, **Spring Boot**, and Tascent iris scanner API
- Engineered 2 migration utilities for 300 million records, ensuring high reliability and scaling with **Spring Boot**, **Oracle**, and **ActiveMQ**. Achieved over 1 million daily migrations with a minimal failure rate
- Designed and Implemented 5s SLA Retrieve identity workflow for IAM solution using **Java**, **Spring**, **Hibernate**, **SQL**, and **RESTful APIs**
- Proficient in configuring and optimizing messaging queues with **Apache ActiveMQ** and **RabbitMQ**, and implementing event-driven architectures using **Apache Kafka**
- Integrated biometric capture devices into applications using **.NET** and **C#**, leveraging .dll and .so libraries, **ActiveX**, and Internet Explorer. Achieved a 100% improvement in device responsiveness and reduced failure rates to less than 0.01%
- Conducted **code reviews** and provided mentorship to junior developers, fostering a collaborative and learning-oriented environment
- Awarded Tarek Award-Technology Excellence Award for Digitus Project (October 2018)

Software Engineer Intern Jan 2016- June 2016

Unisys

- Created an android app to read facial characteristics using **Java**, **Spring**, **Hibernate**, **Android Development**, **Angular**, and **Oracle DB**
- Created web-pages for on-premises monolithic application for displaying demographic and biometric details of enrolled people using **Angular**, **Java**, **Spring**, **Hibernate** and **Oracle DB**

Education

University at Buffalo, The State University of New York Aug 2022- Dec 2023

Masters of Science in Engineering Science Focus in Artificial Intelligence & Robotics

SRM Institute of Science and Technology Aug 2012- May 2016

Bachelor of Technology in Computer Science and Engineering

Technical Skills

Programming Languages: Java, Python, C/C++, SQL (Postgres), JavaScript/TypeScript, HTML/CSS
Frameworks: Spring Boot, Vert.x, Hibernate, Nginx, consul, Angular, React, expo, Express.js, Flask, JUnit
Developer Tools: Git, Bitbucket, Docker, Jenkins, Azure, Maven, Gradle, VS Code, IntelliJ, npm, pip
Libraries: PyTorch, TensorFlow, Axios, Spring Boot, OpenCV, pandas, NumPy, Matplotlib, rospy
Event Driven Architecture : Apache ActiveMQ, Redis, Memcached, IBMMQ, RabbitMQ, Apache Kafka
Other: Agile/Scrum, Jira, Microservices Architecture, Design Patterns(MVC, Singleton, Observer)

Projects

Audio Classification of Environmental Sounds | *Python, Pytorch, Deep Learning*

- Conducted extensive research to enhance classification accuracy through innovative preprocessing strategies on environmental sounds data, leveraging **transfer learning** techniques with **CNN's** achieving 97.6% accuracy
- Evaluated **Mel-spectrograms** and **MFCC** audio processing methods and completed comparative study. Extensively tested on environmental sounds datasets(ESC-50, UrbanSounds8K)

Contactless Fingerprint Verification | *Python, Flask, MongoDB, OpenCV, React, Expo*

- Developed and deployed a cross-platform mobile application for contactless fingerprint enrollment and verification. Utilized **Expo**, **Axios** and **React Native** for frontend, and **Python** with **Flask** and **OpenCV** for backend
- Implemented capture for enrollment and verification for fingerprints with high accuracy(>95%)
- Utilized an **object detection** model **(Vision Transformer)** to accomplish fingerprint matching by generating ridges of fingerprints with minimal failure rate(<5%)

Image Classifier | *Python, Pytorch, Deep Learning, Transfer learning, OpenCV*

- Developed a custom **deep learning image classifier**, showcasing a nuanced understanding of model **underfitting** and **overfitting**. Fine-tuned **hyperparameters** to achieve outstanding results on the DTD dataset, including an accuracy of 70% and a loss reduction of 80%
- Enhanced model performance by strategically applying **transfer learning** techniques, resulting in a significant improvement in F1-score and precision
- Implemented advanced **data augmentation** and effectively monitored the training process using **TensorBoard**, contributing to a 15% reduction in training time and a 10% increase in model accuracy