Nikhilesh Amarnath

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SUMMARY

A Software Engineer with experience specializing in Full Stack application development, ML, DL, and Big Data applications. Adept at identifying innovative solutions in collaboration with diverse teams using excellent communication skills.

EDUCATION

The University of Texas at Dallas, Texas, US   Aug 2021 - May 2023
Masters of Science in Computer Science   *GPA: 3.71/4.0*

SRM Institute of Science and Technology, Tamil Nadu, India   Aug 2016 - May 2020
Bachelor of Technology, Computer Science and Engineering   *GPA: 7.81/10*

EXPERIENCE

Intel Corporation   Hillsboro, Oregon
Software Graduate Intern (Openvino, Python)   Aug 2022 - Dec 2022

- Leveraged the Intel OpenVino toolkit to execute deep learning model inference, and conducted rigorous validation of quantization and integer calibration experiments.
- Conducted comprehensive bench-marking for CPU, GPU, and VPU computations.
- Validated AI/ML models using ONNXRT and WinML frameworks for cross-platform compatibility.
- Created custom python scripts to automate the validation over 100 deep learning modules.

Open-Source Integrators (OSI)   Redlands, California
Software Engineer Intern (React, Python, Flask, Postgres, Kubernetes)   June 2022 - Dec 2022

- Performed Data Cleaning to model the Project Burn Rate, and identified correlations between different variables.
- Leveraged Predictive and Prescriptive Analysis techniques to forecast potential outcomes and recommend optimal strategies.
- Responsible for creating a responsive user interface using React to enable user input for ML models, used by project managers.
- Created dashboard in React to visualize the Predicted Burn Rate for a Project.
- Contributed in deploying ERP systems by creating multiple instances of Odoo application for 50+ charities using Kubernetes.

ACADEMIC PROJECTS

Task Tracking Application | (React, Spring Boot, MySQL, MicroService, Kubernetes)   Apr 2023 - June 2023
- Designed and developed a Task Tracking micro-service full stack application with login, create, update, and delete tasks.
- Implemented REST APIs following MVC architecture and implemented JWT tokens for secure access to the APIs.
- Containerized the individual services using Docker and deployed it on a Kubernetes cluster with autoscaling enabled.

Real-time NER of Reddit Comments | (Pyspark, ELK, Kafka, Python)   Mar 2023 - Apr 2023
- Developed a Python application with Reddit Python SDK to stream subreddit comments and push to Kafka topic.
- Used PySpark's streaming feature to filter named entities from topic comments using spacy and push to LogStash.
- Created dashboard for visualization of the named entities in Kibana to analyze the trends in that subreddit.

Airbnb Booking System | (React, NodeJS, ExpressJS, MongoDB)   Jan 2023 - Apr 2023
- Developed a Web Application in MERN Stack that allows users to search, host, bookmark and reserve properties.
- Implemented CRUD operations in MongoDB using the Mongoose library, user authentication and REST API's in Nodejs to support ajax calls from React.

Encrypted File System | (Java)   Feb 2023 - Mar 2023
- Designed and implemented a secure and encrypted file system with password validation(SALT), HMAC generation and validation.
- File contents were encrypted using CTR mode with a unique IV for each 16-byte block and 1024-byte file.
- Optimized read/write/cut operations for storage, security and performance during encryption/decryption.

DoorDash - Database Design (MySQL, MySQL Workbench)   Jun 2021 - Dec 2021
- Developed a DoorDash application database in MySQL Workbench via reverse engineering and data requirement analysis.
- Created ER/EER model, mapped to relation schema, and normalized relations for data consistency and integrity.
- Created tables, functions, triggers and stored procedures to support the application's functionalities.

TECHNICAL SKILLS

Languages: Python, Java, Javascript, SQL, R, C/C++
Framework: ExpressJS, NodeJS, Spring Boot, Kubernetes, Docker, Kafka, PySpark, Hadoop, Flask, ELK
Web Technologies: React, Bootstrap, HTML, CSS
Databases: Postgres, MySQL, MongoDB
Developer Tools: Git, Linux, AWS, Databricks, Apache Kafka, Firebase