

# 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** Aug 2021 - May 2023  
*Masters of Science in Computer Science* GPA: 3.71/4.0

**SRM Institute of Science and Technology** 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