VISHAL SATHYANARAYANA

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Portfolio

EDUCATION

Arizona State University, Tempe August 2022 - May 2024
Master of Science, Computer Science CGPA: **3.89/4.0**
Major Coursework: Foundations of Algorithms, Data Mining, Data Processing at Scale, Semantic Web Mining, Advanced OS, Integrated Robot Learning with HumanRobot Collaboration, Robot Perception, Artificial Intelligence

PES University, Bengaluru August 2017 - July 2021
Bachelor of Technology, Computer Science and Engineering CGPA: **9.44/10.00**
Major Coursework: Algorithms, Data Structures, Operating Systems, Database Management Systems, Distributed Systems, Big Data, Cloud Computing, Compiler Design, Data Analytics, Computer Networks

SKILLS

Programming Languages	Python, Java, JavaScript, HTML, C++, TypeScript
Frameworks	RESTful API, Reactjs, Spring Framework, Node.js, Angular, Map Reduce, Tailwind
Database & tools	MySQL, MongoDB, Postgres, Docker, Git, Kubernetes, AWS, JIRA
Certifications	Architecting with Google Compute Engine (Google), Machine Learning (Stanford)

PROFESSIONAL EXPERIENCE

BWI Group Michigan, United States of America
Designation: Software Engineer Intern *May 2023 - August 2023*

- Integrated code with Enterprise Architect API to automatically create end-to-end architecture diagrams for transmit and receive signals of Stellantis's ABS braking system
- Streamlined low-level development with an automated workflow for message and signal mapping from DBC files to the vehicle's software components, reducing manual effort by over **300%**
- Developed an end-to-end REST-based web application for internal users to validate critical business rules

Akamai Technologies Bengaluru, India
Designation: Software Engineer *July 2021 - July 2022*

- Led the development of a high performance parallel infrastructure for the Akamai Marketplace team, increasing the end-to-end performance by **10x**
- Engineered an innovative Java workflow to efficiently parse, structure and evaluate over 8000 product rules in less than **2s**
- Spearheaded the development and AWS cloud deployment of the Intake project, responsible for simplifying and automating the process of raising tickets on JIRA for 30+ business teams across the organization
- Optimized existing bulk API SQL queries by leveraging join and aggregate operations to efficiently run on the Oracle database
- Migrated and enhanced the legacy AngularJS codebase to Angular 11 using Redux, improving performance by **30%**
- Developed an end-to-end REST-based web application for internal users to validate critical business rules

ACADEMIC PROJECTS

Stock Market Analysis *Python, R, ARIMA, LSTM*

- Scraped and cleaned last 15 years of National Stock Exchange of India's data and developed a hybrid Machine Learning model using ARIMA and LSTM that forecasts and selects viable stocks to maximise profit while minimising the risk taken
- Devised a custom algorithm using CAGR and weighted returns to rank top 250 companies
- Achieved 14% profit on the principal amount from 4th October 2019 to 20th November 2019 by investing in top 10 companies shortlisted by the model

MiniHIVE - *A MapReduce based SQL Query Engine* *Map Reduce, Java, Hadoop File System, SQL*

- Developed a SQL query engine similar to Meta's Hive by creating dynamic Java MapReduce jobs for efficient retrieval of data on the Hadoop Distributed File System (HDFS)
- Implemented runtime mapping of standard SQL queries to MapReduce jobs for processing large streams (order of TBs) of data present across multiple nodes in a scalable manner

Scalable CloudApp (DbaaS) *Python, Flask, Kubernetes, ZooKeeper, RabbitMQ, AWS, SQL*

- Devised an orchestrator service that delivers a fault-tolerant, highly-available database as a service on AWS cloud using REST APIs and Docker containers
- Enhanced the application with 3 EC2 instances, effective load balancing, microservices, and scale-in-scale-out capabilities for scalability and high availability