KAUSTUBH BADRIKE

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Software Development | Machine Learning | Data Science

Dynamic, innovative, and performance-focused professional experience facilitating software development, change management and system administration functions. Utilize good judgment to improve architecture and design experiences using modern architecture, frameworks, design patterns, and reliability principles. Proficient in engineering, defining requirements, designing, testing, and task management. Well-versed with the latest on-premises and cloud infrastructure solutions to produce scalable applications with maximum efficiency. Able to solve problems, influence colleagues, and work independently with minimal to zero supervision.

CORE COMPETENCIES

- Languages: Python, TypeScript, Java, C#, JavaScript, C++, Go, SQL, PL/SQL, HTML, CSS
- Frameworks: .NET, Django, Angular, React, numpy, pandas, scipy, Node.js, scikit-learn, jQuery
- Tools: MongoDB, Azure, RESTful API, git, Qiskit, GitHub (& Actions), CI/CD, GitLab, Jira, Linux, MySQL, PostgreSQL

PROFESSIONAL EXPERIENCE

Quantum Computing (Dr. Frank Mueller), Raleigh January 2022 – May 2023
GRADUATE RESEARCH ASSISTANT

- Conduct and analyze the effect of quantum program characteristics on IBM quantum devices and provided recommendations through statistical analysis using **nympy**, **scipy**, and **scikit-learn** in **Python**.
- Enforce best practices in building a transformation model for using Qiskit programs on a DAX cloud device, a contribution to the NSF-funded Software-Tailored Architecture for Quantum co-design project.
- Collect and report **data** sets using **pandas** and **matplotlib** for presentation at conferences and meetings.
- Perform various administrative responsibilities to develop hybrid quantum-classical solutions per research objectives.
- First author on QIsDAX, a submission to the IEEE International Conference on Quantum Computing and Engineering.

GEP, Mumbai, India July 2019 – July 2021
SOFTWARE ENGINEER

- Established and utilized strategic methodologies to efficiently generate data transformation (Liquid and XSLT) templates from **frontend** user interactions in **TypeScript** / **JavaScript**.
- Developed **scalable**, **distributed backend** systems using **.NET**, **C#, SQL** and **Microsoft Azure cloud** solutions.
- Utilized predictive modeling and strategic engineering procedures to redevelop from monolith to **Angular** micro-frontend architecture.
- Implemented design specifications into **semantic**, **responsive** application layouts using **HTML** / **CSS.**
- Maximized test coverage for **unit**, **integration** and **end-to-end** testing using automated **CI/CD** code quality verification.
- Executed industry best practices and strategic methodologies to continuously improve processes based on user needs.
- Designed and spearheaded GEP Click to establish brand awareness, solidify metrics, and achieve business goals.

CMS InfoSystems June 2018 – July 2018
IT INTERNSHIP

- Improved troubleshooting, uptime, and maintenance processes for high volume governance systems.

Jawaharlal Nehru Port Trust June 2017 – July 2017
INDUSTRIAL EXPOSURE INTERNSHIP

- Documented specifications and identified bottlenecks for logistics software and equipment.

PROJECTS

Image inpainting using Neural Networks

- Played an integral role in creating **Tensorflow** / **Keras** models to predict pixel values in missing regions from incomplete and unreliable visual data. Mitigated hue, luminosity, and localization biases and improved baseline metrics by **63%**

Automated Malware Analysis

- Obtained runtime threat analysis for insecure file execution in a secure sandbox environment with **96%** accuracy.
- Trained **pytorch** model with data infrastructure utilizing VirtualBox API to spin up Virtual Machine (VM) clones, YARA rule matching on memory snapshots, and a combination of Wireshark and the Yeti platform for network packet analysis.

EDUCATION

Master of Science in Computer Science (GPA: 3.792/4) | North Carolina State University Aug 2021 – May 2023
Bachelor of Engineering in Computer Engineering (GPA 7.9/10) | University of Mumbai, India Aug 2015 – May 2019

CERTIFICATIONS

Microsoft Certified: Azure AI Engineer Associate
Microsoft Certified: Azure Data Scientist Associate
Programming, Data Structures and Algorithms using Python (NPTEL)
Oracle Certified Associate, Java SE 8 Programmer
Full Stack Web Developer I Nanodegree (Udacity)
IBM Quantum Challenge - Fall 2021 – Advanced
Certified ScrumMaster (CSM)
Programming in C++ (NPTEL)