**Rishita**

**Software Engineer**

**Summary**

* 6 years of experience in software engineering and data analysis, with a strong foundation in python, C++, software testing.
* Proficient SQL, Python for advanced ETL and data visualization tasks.
* Expert in developing efficient python software for middleware applications, enhancing system performance and stability.
* Experience with financial services and payment interfaces
* Designed and implemented multi-threaded applications integrated with real-time performance monitoring, significantly improving bug resolution and system reliability.
* Conducted extensive testing across all phases of the software development lifecycle, including functional, regression, and User Acceptance Testing (UAT), to ensure product quality and compliance.
* Engineered software for embedded systems using C and C++, focusing on robust functionality and system efficiency.
* Expert in utilizing SQL for database management functions, including DDL and DML statements such as CREATE, ALTER, DROP, and SELECT, along with complex joins and subqueries across Oracle and Microsoft SQL Server environments.
* Proficient in Python, with skills in data libraries such as Pandas, NumPy, and Matplotlib, and experienced in writing robust code for data profiling and cleansing operations.
* Experienced in creating complex visualizations like heat maps, scatter plots, and KPI dashboards.
* Managed project documentation and oversight using tools like Jira and Confluence, ensuring effective tracking and communication across project stages.
* Strong communication and interpersonal skills, capable of effectively collaborating with diverse teams and stakeholders.

**Education**

* Master of Science in Computer Engineering, Brown University, Providence, RI-GPA : 4.0
* Bachelor of Technology in Electrical, Electronics and Communications, Karnataka, India

# Professional Experience:

**Amazon Inc, Arlington, VA July 2021 to Till Date**

**Software Development Engineer**

Developing and testing Python and C++ middleware applications for 2023 Alexa devices like Echo Show 5 and FireTV, and 2024 release devices such as Alexa ECHO spot focusing on performance and stability. Designing multi-threaded applications with integrated performance metrics and established a robust reporting infrastructure in Tableau. Efficient project management and documentation were maintained using Jira and Confluence throughout the development cycle.

**Responsibilities:**

* Developed efficient and comprehensive end-to-end testing utilizing C++ and Python for key middleware applications in Alexa devices, including Echo Show 5 (2023 release) and FireTV.
* Conducted software field testing to assess performance and stability in production environments, supporting products with extensive customer bases.
* Designed multi-threaded applications integrated with performance metrics strategies implemented using Python libraries, enhancing the identification and resolution of on-field bugs to improve customer experience.
* Designed Predictive Cache Manager for caching of assets downloaded from the library using Pro\*C
* Development of Sample web APP, emulating the Prime Video App using React.
* Performed testing for the Echo Show 5 Bluetooth feature and resolved various on-field bugs
* Leveraged concurrent programming to deliver impactful projects to customers like Youtube, PrimeVideo etc and ensured that the applications are thread-safe, thus enabling them to achieve better performance on the newer Alexa releases
* Deliver projects using Agile methodologies.
* Experience working on distributed database systems using MongoDB
* Designed and utilized custom dashboards for real-time KPI monitoring improving the efficiency of catching on-field bugs to ensure a hassle-free experience for the customers.
* Developing IPC communications and unit testing with Google Protocol buffer (ProtoBUF)
* Participated in various software development projects, including hardware testing, firmware and integration testing, as well as User Acceptance Testing (UAT).
* Support for Automated LabVIEW based test system for all the electronic boards and modules BOM Generation and Cost estimation
* Wrote code for an Automated Test Equipment using LabVIEW.
* Automated Test System Design and Programming using Labview.
* Developed and maintained comprehensive test plans for functional, regression, and User Acceptance Testing (UAT) phases.
* Engaged in smoke, functional, regression, integration, and exploratory ad hoc testing across various stages of the software development life cycle (SDLC).
* Collaborated with business users and data architects to establish a comprehensive reporting infrastructure in Tableau from inception.
* Created and maintained reporting dashboards; conducted data mining and analysis to gauge customer purchasing behaviors.
* Employed Tableau Custom SQL and Views to integrate data from diverse sources such as Oracle, Hive, and Teradata.
* Exhibited strong ground in Data Structures and Algorithms including but not restricted to Graphs, trees to make various Alexa apps and games voice-enabled using PlayBack Controller and Seek Controller
* Developed and automated the delivery of scheduled Tableau reports to specific user folders using Rest API, TabCmd, and Python Tableau Server Clients.
* Performed ETL tasks utilizing SQL and Python Pandas for outlier detection and imputation of missing values.
* Managed project documentation and oversight using Jira and Confluence, ensuring effective project tracking and reporting.
* Acted as scrum master, facilitating daily team meetings and monthly organization-wide town hall sessions.

**Tech Stack:** C++, Python, SQL, Pro\*C, React, Tableau, Javascript, Jira, IPC, Confluence, Rest API, TabCmd, Oracle, Hive, Teradata, CI/CD, MongoDB

## Carrier Syracuse, NY April 2020 - May 2021

## Software Developer

This project encompasses program files that are concatenated bundles identifiable by the system as ML5 application code. The files follow a specific naming convention based on the version and model of the product. For production release versions of the PrimeLINE and PrimeLINE EDGE sensor controller, the filename is designated as scrl63xx.ML5. For the NaturaLINE model, the filename for production releases is scrl96xx.ML5. Interim release versions for the PrimeLINE and PrimeLINE EDGE are named scrl96xx.ML5, and for the NaturaLINE, the interim files are named co2\_98xx.ML5.

**Responsibilities:**

* Trained the microcontroller atmel as well as the controller model for ML5 Phase-1 software applications.
* Performed development tasks using Python and C++ for embedded microcontroller applications.
* Gained experience working with Bluetooth module
* Leveraged PLDM (Platform Level Data Model) for component modeling and communications between internal components
* Sensor components were contingent with ISO 13485
* Handling of sensor data using Pro\*C
* Provided comprehensive support across test environments, QA, and production settings.
* Involved in various software development projects, including firmware testing, integration testing, User Acceptance Testing (UAT), and machine-to-machine integration.
* Running Manual tests for scenarios that cannot be automated. Monitoring tools, analyzing results, resolving performance related issues to include optimization and tuning recommendations.
* Experience working on distributed database systems using MongoDB
* Developed and maintained plans for functional, regression, and User Acceptance Testing (UAT).
* Actively participated in smoke, functional, regression, integration, and exploratory ad hoc testing across multiple stages of the software development lifecycle (SDLC).
* Conducted extensive hardware testing, including assessments of batteries, compressors, O2 and CO2 sensors, and Bluetooth connectivity.
* Deliver projects using Agile methodologies

**Tech Stack:** Python, C++, Pro\*C, SQL, Linux, RTOS, PLDM, Eclipse, VScode, CI/CD, MongoDB

**Macys Columbus, Ohio July 2019 - April 2020**

**Python Developer**

A project focused on refactoring the card authorization code from embedded C to Python on the AWS platform. This initiative involves transitioning the encryption technology from the standard AES method to the RSA method. The project is designed as a standalone Point of Sale (POS) system, which is operational within Macy's and Bloomingdale's stores.

**Responsibilities:**

* Utilized Python, C Embedded/C++, Unix, Multithreading, and SoapXML in project development.
* Involved in refactoring code from C Embedded to Python on AWS for card authorization.
* Coded interfaces using Murex FLEX API to streamline credit card authorizations
* Utilized Windows Embedded Standard 7 and 8 Toolkit.
* Worked on STM2 microcontroller applications
* Deliver projects using Agile methodologies
* Authored technical stories based on RSA requirements, ensuring clear communication of technical plans and objectives.
* Involved in refactoring code from C Embedded to Python on AWS for card authorization.
* Experience with utilizing Active MQ as java messaging service
* Defined comprehensive scenarios and data variations to conduct thorough testing.
* Produced updated designs and documented changes to maintain accuracy technical documents and project specifications.

**Tech Stack:** Python, C, Embedded C++, Unix, Multithreading, SoapXML, AWS EC2, AWS S3, AWS SNS, AWS RDS, AWS IAM, AWS Route53, RTOS, CI/CD and Eclipse

**Bosch Rexroth, Bengaluru, India August 2017 - April 2019**

**Embedded Developer**

This project introduces an advanced infotainment system built on a robust Linux-based platform. This premier product is equipped with a 6-inch touch display and integrates a wide range of functionalities including connectivity (A2DP, HFP, AVRCP, Mirror Link), media support (USB, iPod, MTP), and a comprehensive tuner (FM, AM). Additionally, it features cutting-edge capabilities such as live streaming IPTV and an online shopping interface, offering users a versatile and dynamic in-flight experience.

**Responsibilities:**

* Served as a key member of the software testing team, developing test solutions for various technical components of In-Flight Entertainment (IFE) applications.
* Engaged in a wide range of software projects, including testing for web applications, firmware, integration, User Acceptance Testing (UAT), machine-to-machine integration, smart device integration (iPads, iPhones, Android devices), and Electronic Diagnostic Tool (EDT) project testing.
* Developed and maintained comprehensive plans for functional, regression, and User Acceptance Testing (UAT).
* Actively participated in smoke, functional, regression, integration, and exploratory ad hoc testing during QA across various phases of the software development lifecycle (SDLC).
* Conducted compatibility testing for applications across different web browsers, including Internet Explorer, Chrome, Safari, and Firefox.
* Identified test cases suitable for automation within web application projects to enhance testing efficiency and effectiveness.
* Deliver projects using Agile methodologies

**Tech Stack:** Python, C, Embedded C++, SQL, Linux, CI/CD, Jupyter Knowledge, RTOS, Jupyterhub, and Jenkins