RATIKANTA PANDA   Senior Python AWS Engineer

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Professional Summery

Experienced in Design and Development of large-scale, Real-Time, Low latency, Scalable, High Available Distributed Systems. Strong experience in AWS, RESTful APIs, Micro-services , Messaging, Web services, Data Analytics and Machine learning.

- Excellent in managing relationship at Workplace. In-depth knowledge of test-driven development(TDD) and agile methodology with background as key contributor to entire software development life cycle (SDLC).
- Effective knowledge in Python, C++ and Java. Rich exposure to OOPs and Design Patterns.
- Extensive experience on building secure server-less container services.Good experience in working with AWS- EC2, ECS, Step Functions ,Lambda, S3, RDS.
- Strong Knowledge in Data Analytics , Machine Learnings , NLP using Python libraries - NumPy, Pandas , Scipy, Matplotlib, Scikit-learn, TensorFlow, Pyspark.
- Strong experience in REST APIs and MicroServices .Very Good Knowledge on design and development of Web Apps and Analytics Dash Boards using - Python, JavaScript, HTML/CSS, Flask, Django, Dash , FastAPI
- Strong experience on Messaging Middleware and Event Driven MicroServices – Kafka, RabbitMQ, Solace and ØMQ.
- Have good work experience on ETL process, Big Data Applications and Real Time Streaming and Data pipelines using – AWS, HDFS, Hive, Spark, Kafka
- Solid Knowledge on Relational Databases and Caching – PostgreSQL, MySQL,Oracle, SQL Server, Redis, ORM, ODBC, JDBC.

Skills

Languages: Python , SQL, C++, Java, Bash, JavaScript, HTML, CSS

Python libs & Frameworks

- **Data Science & Machine Learning:**- Numpy, Pandas, Matplotlib, Sciktit-Learn, Spacy, NLTK
- **Deep Learning:** TenserFlow, XGBoost
- **Web Frameworks:** Django, Flask, React, Dash, FastAPI
- **Web Scraping:**- Requests, BeautifulSoap

Database: PostgreSQL, Oracle, MySQL, SQL Server, SQLite, Redis, SQLAlchemy

AWS Services

EC2, Lambda, ECS, Step Functions, S3, Storage Gateway, RDS, SQS,SNS, DataSync

Big Data:- Kafka, Spark, Pyspark

Messaging Middleware: Kafka, RabbitMQ, ØMQ , Solace, JMS

CICD & DevOps Tools - Git, Bitbucket, Bamboo, Docker, JIRA, SNOW, Confluence, Splun**k**

IDE Tools :- PyCharm, IPython, Jupiter Notebook, Pytest

Protocols :- FIX, AMQP, TCP/IP, HTTP

Education

Master in Computer Application (MCA), 2005 - Biju Patnaik University of Technology, India
Bachelor of Science (BSC) , 1999 - Utkal University, India

Experience

CLIENT# THE VANGUARD GROUP, CHARLOTTE, NC   DEC, 2019 – TILL DATE
COMPANY# RANDSTAD TECHNOLOGY, USA
ROLE# SENIOR PYTHON DEVELOPER

Roles and Responsibility:
- Built and deployed Axioma Risk Model data sync agent and task on AWS to transfer axioms OnPrem files to QEG S3 bucket for generating factors and signals.
- Part of QEG Research Full Stack team worked to Modernize QEG Signaling system, Involved in migrating QEG Signal Cycle from MQA to QADirect Servers.
- Worked on QEG AWS Migration. I was involved with team to design and develop QEG APIs, data pipelines, lambdas, build up automated daily Signal cycles and back testing.
- Involved to set up AWS RDS Postgres DBs and s3 Buckets for data sourcing, signal generation and for QEG Research.
- Refactored Factor Fund SOI driver's python code to improve performance of daily Signal generation jobs.
- Design and Developed a Web Scraper for Downloading, Scrapping , Aggregating , cleansing and structuring cftc data . Build up data pipelines using AWS ECS and Step Functions to store and deliver data to downstream consumers.
- Enhanced QEG Model Controller code and implemented data pipeline scheduler using Python and Flask APIs. Working on to improve performance , data protection and securities for data intensive RESTFull APIs.
- Implemented unit testcases for various QEG modules and APIs using pytest.
- Part of QEG Research Full Stack team currently working with QEG Model Integration team (QEGMI) to build and deploy a scalable AI/Machine learning based Quantitative Research platform on cloud (AWS) for QEG Research and Signal System. Involved in data collection, model building, model validation and backtesting phases.
- Working closely with QEG researchers to implement and deploy various predictive models and techniques using Python and AWS.

Environment: Python, Pandas, Numpy, Scikit-Learn, Flask, Dash, AWS, PostgreSQL, SQL Server, JIRA, Git, Bitbucket, Splunk

CLIENT# WELLS FARGO BANK, CHARLOTTE, NC   JAN, 2018 – DEC, 2019
COMPANY# RANDSTAD TECHNOLOGY, USA
ROLE# SENIOR APPLICATION ENGINEER

Roles and Responsibility:
- Charles River Development (CRD) project- Developed low latency core execution engine, core services and data services for IDS (Investment Domain Services), Product Master and Asset Management using C# ,Java and Python.
- 1BIL/1BUS – Worked on to build a most flexible, reliable and advance cloud based service bus. Designing and implementing Event based Micro services with Event Sourcing and Event Streaming using Java, Kafka, Solace and Spark. Developed Django Micro services.
- Developed message transformation Rules and processing logic using Python and Flask.
- Create stored procedures to enrich the data based on business rules before loading into APAMA engine.

- SolCheck UI – Design and development of in-house tool to see Solace administrative objects using Python and Flask.
- POC of 1CEP (Critical Event Prediction) using APAMA, Python, Solace and Java Script APIs.

Environment: Java, C#, Python Flask, Solace, Kafka, Apama, Splunk, Docker, HDFS, SQL Server, REST Services, JSON, Git

CLIENT# WALT DISNEY WORLD, ORLANDO, FL **JUNE 2016 – JAN 2018**

COMPANY# COGNIZANT TECH SOLUTION, USA

ROLE# SENIOR PYTHON,C++ ENGINEER

Roles and Responsibility:

- Guest Data Integrator - GDI is a **customized** near real time ETL application, which integrate data coming from different upstream sources and store master data in ODS. I was responsible to design and develop its core engine in C++ and different web services like - Guest Service, Organization Service, Guest Look up Engine (GLE), Postal Address Validation Service using Java.
- D3 Data warehouse - Designed and developed ETL process and scalable pipelines to move real time data into HDFS using Python, Spark and Kafka. Developed Spark job for data massaging and pushing data into Elastic Search Engine.
- Part of a team worked on to build an AI driven personalization and digital marketing platform. Implemented major machine learning algorithms and APIs as Micro services for data discovery, image recognition, decision making, and content distribution. Built up real-time data pipelines with Kafka connect and Spark streaming.
- Developed real-time analytics dashboard for Guest Studio to analyze guest data, volumes and applications health using Python, Spark and Kafka.
- Implemented various batch jobs using - Python, Perl and Shell scripts.

Environment: C++, Python, Flask, Java, Docker, AWS, Hive , Pig, Spark, Kafka, REST, SOAP, XML, JSON, Oracle, MySQL, Open CV, NumPy, SciPy, Pandas , Matplotlib, Git

CLIENT# E*TRADE FINANCIAL MENLO PARK, CALIFORNIA **SEPT 2015 – JUNE 2016**

COMPANY# COGNIZANT TECH SOLUTION, USA

ROLE# SENIOR PYTHON,C++ ENGINEER

Roles and Responsibility:

- Smart Order Router - Worked as part of a team managing development and release of Smart Order Router Project for Trading Platform. Implemented major enhancements like Refdata Cache, Config Service, Message Archiver, Messaging Services and Integrated with Solace Messaging System.
- Low Touch Container - Part of a team working on the build out of the low touch container for Cash and Account Management. Design and developed more than 20 RESTful APIs and Web Services.
- Real-time Event Management - Designed and developed Kafka-Spark-Elastic pipeline for Fund Transfer Activities. Developed REST services and jobs to push real-time Brokerage transactional data into Kafka. Involved in POC of real time fraud analysis in Spark, Kafka and Python.
- Building automation framework, fixing production issues and analyzing performance bottlenecks.

Environment: Python, C++11, FIX, AMQP, Docker, AWS, SOAP, REST, XML, JSON, Kafka, Spark, Git

CLIENT# UNION PACIFIC RAIL ROAD, OMAHA, NE   FEB, 2014 – SEP 2015
COMPANY# TECH MAHINDRA , OMAHA, USA
ROLE# PROJECT LEAD

Roles and Responsibility:
- Coordination of all the aspects of the Project right from Execution to Delivery which includes planning, control, implementation of plans, coordinating, progress and issues, managing the team and ensuring the quality of the deliverables.
- Design, Implement and Configure High Available Message Bus using C++ and Solace Messaging.
- Designed and developed Message Archiver to log and archive messages coming from different Wayside devices, Base station and Locomotive using Python, HDFS, Apache Storm and Solace.
- Developed Health Checking and Event Monitoring Applications using Python for fault tolerance and disaster recovery of Back office applications and Messaging services.
- Installing and configuring Positive Train Control ("PTC") back-office work products and Train Management Computers in Lab and Production environment.
- Build up Test Automation framework using Python to test different PTC Applications.Review of Test plan and Test Cases for different PTC Applications.
- Fixing Critical and outstanding bugs and technical errors identified in Lab and Field testing.

Environment: C++,Python, Java, SOAP, REST, XML, JSON, HDFS, Apache Storm, RabbitMQ, SVN

CLIENT# UNION PACIFIC RAIL ROAD, OMAHA, NE   JUNE, 2011 – FEB 2014
COMPANY# TECH MAHINDRA, BANGALORE, INDIA
ROLE# PROJECT LEAD
Roles and Responsibility:
- Leading and technically managing the HACC(High Available Train Control Component) development team for quality deliverables.
- Reporting the module progress to client and management on weekly basis, identifying any show stopper issues, risks, its mitigation etc.
- Interact with customers to understand and analyzing the requirements, estimate effort to design, coding and testing.
- Design and development of CBTCPA Tool for analyzing Class-d/ EMP and Class-c/EMP packets, which is based on Open source free project Wireshark. And implemented dissectors for various PTC XML based Messaging protocols.
- Reverse Engineering of ITCM/Class-d and Class-c protocols. Designed and developed API Wrapper for solace based Messaging applications.
- Developed low latency EMP XML parser using Apache Xcerser and C++.
- Designed and developed REST based Web services - ConfigUtil and Dynamic Subscriber for subscribe/unsubscribe wayside devices, locomotives and Base stations.
- Implemented Wayside relay service for routing wayside messages across Back office, Locomotive and Wayside using Solace and Java Web services.

Environment: C++,Python, Java, SOAP, REST, XML, JSON, HDFS, Apache Storm, RabbitMQ, SVN

COMPANY# HCL TECHNOLOGY, BANGALORE, INDIA   **AUG 2010 – JUNE 2011**

ROLE# TECH LEAD

Roles and Responsibility:

- Interact with customers to understand their requirements, analyzing the client's requirement, estimate effort to design, coding and testing.
- Design and developed Real time data stream analyzer.
- Done algorithmic design and development for command queue browser.

Environment: C++, Boost. Python, Solace, Oracle, SSL, HTTPS, Bash, ClearCase.

COMPANY# SIEMENS CT, BANGALORE, INDIA   **DEC 2007 – AUG 2010**

ROLE# SENIOR SYSTEM ENGINEER

Roles and Responsibility:

- Analysis of the specifications provided by the different Business Unit.
- Design and development of Messaging System and Messaging Gateway for NMCS 2.0
- Developed Java Adapters for NMCS 2.0.
- Designed and developed NFR test engine and Scripts.

Environment: C++, Python TCP/IP Socket programming, SSL, HTTPS, Linux IPC, ClearCase

COMPANY# IBM, BANGALORE,INDIA   **JUNE 2006– DEC-2007**

ROLE# SOFTWARE ENGINEER

Roles and Responsibility:

- Developed Messaging Services for TxSeries using IBM MQ and C++.
- Developed multi threaded CORBA services for Object Transaction Services (OTS) module using – C++ and ORBIX.
- Implemented various batch jobs using - Python and Shell scripts.
- Test utility development for load testing

Environment: C++, Python, CORBA, DB2, IBM MQ, AIX, ClearCase