Reshmi

Python, AI/ML Engineer [H4 EAD]

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PROFILE SUMMARY

* Innovative Machine Learning Engineer with 16+ years of experience in application design, development, testing and deployment
* Worked in the areas of Architectural designing and algorithm developments. Good exposure to Machine learning and Natural language processing
* 4+ years, experience in Python data manipulation for loading and extraction with libraries such as NumPy, Pandas, Scikit-learn, NetworkX, Matplotlib, Plotly for data analysis and numerical computation

# Familiarised LLM based Lang Chain framework, FAISS, Pinecone and OPENAI API with vector data base

* Designed and implemented microservices/application in Python using Django and Flask frameworks
* 5+ years of experience in Artificial Intelligence, Machine learning, NLP and Chat bot development
* 2+ Years of Experience in working with AWS Services (IAM, S3, EC2, SageMaker, Lambda, RDS) and GAIA Cloud platform

# 8+ years of experience in designing, developing, and implementing Java based applications using Core Java and Swing

* 3 Years of Experience in continuous integration and continuous delivery
* Experience in writing SQL Stored Procedures, Views, Temporary tables and ensure good performance for database operations
* Extensively worked as a product support engineer in analyzing and resolving the customer issues
* Prepared Technical design document, Use cases, Test cases and User manuals for various projects and at Bug fixing, Code reviews and Unit, Functional & Integration testing
* Experience with security principles: Single sign on, AWS IAM, Authentication, authorization, IDP, AUTH 2, token validation, encoding

# Good knowledge of OOPS concepts, design patterns, UML principles and applied these building the applications

* Experience in working with Waterfall and Agile methodology
* Good knowledge in BFSI and OTC Repo trading domain of capital marketing

TECHNICAL SKILLS

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| Programming Languages | Python, Java, C, C++, VB |
| Python Library | NumPy, Pandas, NetworkX, Matplotlib, Plotly, NLTK, AWS Boto3 |
| ML/DL/LLM framework | Scikit-learn, TensorFlow, Lang Chain |
| Python Framework | Django, Flask |
| ORM Technologies | Hibernate, JPA |
| RDBMS/DBMS/Vector | MSSQL 2008/2014, MySql, Oracle 19c, Pinecone |
| Java/J2EE Technologies | Core Java, Swing, Struts, EJB 3.0, Servlets, JSP, JMS |
| Web Technologies | Java Script, HTML 4/5, XML, Web Service (REST) |
| Development Tools | NetBeans, IntelliJ, Eclipse, PyCharm, VS Code |
| Configuration Tools | VSS, SVN, Git/GitHub, BitBucket |

PROFESSIONAL EXPERIENCE

**J.P. Morgan Services** Oct 2020 to Present

Role: AI/ML Engineer, Architectural Design/Development/Deployment Location: New York

Automated Control service reporting platform powered with machine learning analytics capacity. Config driven back end consist of Cloud deployed micro services and Oracle DB which work together to prepare data for consumption and makes insights and presentation in the Tableau front end.

* Designed and developed an automation platform using Machine learning and micro services architecture
* Built a model to predict service breaks using XGBoost for upcoming weeks based on historical data
* Completed Model validation and performance analysis
* Automated the bringing together of the various data sets required to drive service reporting and control checks. Implementation of Data quality check with pre and post load data manipulation/computation
* Developed API connectivity to multiple data sources and extracted data intelligently without manual interaction. Scheduled the data fetch through Ctrl-M and Microservices triggering
* Identification of repeated issue created by each user based on location and grouped using ML algorithm
* Established Log aggregation for this platform to visualize and correlate log data with added security and control to monitor highly secure data with Splunk log analytics tool
* Implemented AWS S3/Mercury internal cloud object storage solution for higher performance data storing
* Created SQL views and procedure in oracle for data presentation in Tableau
* Deployment and monitoring using CI/CD pipelines

Tools/Environment: Python, SK-Learn, XGBoost, Matplotlib, Plotly, Pandas, Flask, Oracle, Tableau, Control-M, Splunk, Jules/Jenkins, AWS S3, Sagemaker, IntelliJ IDE, Jira, Payload JSON, Git

**OrgLens Private Limited** Nov 2019 to Oct 2020

Role: AI/Machine Learning Consultant Location: India

Orglens Platform is an Organisation Network Analysis (ONA) tool which perform relationship analytics for organisation effectiveness. The insights from an ONA study have applications in productivity, Team Dynamics to Inclusion, Engagement, culture, leadership and execution. To perform this, combined social psychology, management theory, data science, graph theory and AI.

* Insight generation from the Organisation network graph using NLTK/NLP
* Modelled K-Means based clustering of employees capabilities and evaluation
* Creation of Network graph using NetworkX and analyse the graph nodes
* Configuring Data fetch from social platform and mails
* Network Pattern analysis by computing Network centralities and efficiency coefficients
* Social network analysis plotting with Graph plotting tools and library
* Network quality and network support assessing by computing relationship diversity / strength and degree
* Generates insights on culture, engagement, inclusion, high-potential/ highly influential employees, new hire integration

Tools/Environment: Python, Django, SK-Learn, Mysql, AWS, Pycharm, NetworkX, Matplotlib, Plotly, Pandas, Spark, GitLab

Ego Network Analysis is a tool for analysing the individual ego networks that exist within an organization. If an organizational chart provides the theory of how work gets done, the informal network provides the real-world practice; it illustrates how people trust each other, work together to solve problems and make decisions in the real world.

* Platform development for individual network connectivity analysis
* Report generation by creating NetworkX graph and analyse the graph and compute the graph values
* Configuring Data fetch from individual survey
* Graph Plotting with Graph plotting tools and library

Tools/Environment: Python, AWS, Pycharm, NetworkX, Matplotlib, Seaborn

**HCL Technologies Ltd**

Client: Tullett Prebon Group Ltd March 2010 to March 2018 Role: Senior Technical Lead

Location: India

tpRepo (Tullett Prebon European repo trading platform) tpREPO is electronic trading platform for REPO market. It hosts trading on instruments belonging to most of the European countries. It was designed with the aim of making trader’s lives easier, giving them peace of mind and confidence when trading electronically. The application brings together traders, brokers, market admins and back office users for clients. tpREPO has also exposed trading API called “BLADEEDGE API”, through which clients can login and participate in the market.

* Interaction with client’s Business team to understand requirements
* Effort Estimation and preparing project plan
* Responsible for Analysis of new requirements/enhancements, Design/code development and review
* Responsible for build, release and deployment to testing and production environments
* Preparation of Quality documents
* Guiding Team and tracking Project Progress
* Unit testing – Created Unit test case and test plans

Tools/Environment: Java, Swing, EJB, JBOSS, RMI, Web Service, Intellij 2016, Microsoft SQL Server 2014, Smart SVN, JIRA, AnthillPro

TradeBlade USFI - United States Fixed Income Securities trading is performed using USFI application. The application brings together traders to Trade. Settlement and transfer of securities are done in external system –INDY. This application was built on a custom framework.

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## Grey Techno labs

Role: Senior Software Engineer Feb 2005 to March 2010

Location: India

1. SmartMob is designed to capture customer's orders anytime, anywhere with a mobile device. It empowers sales people and field representatives to advance and close sale opportunities at any time and from any location. Sales representatives can focus more time on selling products and take less time for entering orders. The information captured about customers and orders are sending to server through SMS.

Tools/Environment: J2ME, Java, JSP, NetBeans 6.5, Hibernate & MySQL

1. Smart Secretary is a powerful scheduling program equipped with GSM technology. Using this software, can schedule messages and remainders to be sent to individuals without the need of a human secretary. The program can also read the incoming SMS send by individuals and store it in a database for later viewing, with the date and time stamp. It is also possible to schedule an event remotely by sending an SMS to the system.

Tools/Environment: Java, NetBeans, MySQL, GSM Modules & Serial Communication APIs

1. Sparsh is a Fingerprint based attendance marking system for automating the attendance in office environments. Employee’s place their fingers on Biosign device at the time of entry/exit and the time of entry/exit are automatically gets marked. The software automatically generates detailed reports as and when required.

Tools/Environment: Windows 98/2000/XP, Biosign Hardware Module, VB & MySQL

1. A smart card based system to manage the visitor’s procedures in institutions, where entry is restricted for security reasons. It records the visitor’s details and restricts the entry based on access privileges. The visitor’s data such as personal details, company details, visiting block/section, permissions etc can be stored in the smart cards. The authentication system consists of smart card readers and the associated application controls the access of the visitor to the particular area by verifying smart card data.

Tools/Environment: Java, Swing, MySQL, Serial APIs, NetBeans 5.5 & MIFARE Smart Card

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| Education | Years |
| Ph.D, Dept. of Computer Applications from Cochin University of Science and Technology | Oct/2019 |
| M.Sc. Computer Science from University of Calicut | 2001-2004 |
| B.Sc. Polymer Chemistry from University of Calicut | 1998-2001 |
| Achievements and Recognitions | |
| Published international/national journals and presented papers in conferences | |
| Got Outstanding performance awarded twice from HCL Technologies | |