# Vamsi Krishna kolluri

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## /SUMMARY

- I'm a senior software (backend/data) engineer with experience in developing software/data solutions using **Python**, **Flask**, **FastAPI**, **Pyspark**, **Hive**, **Java**, **Postgres**, **MS-SQL**, **Netezza** and **cloud** services.
- Experienced in multiple roles including **backend web-development**, **data engineering**.
- Extensive Knowledge on Object Oriented Programming, Python and working-level knowledge on Machine learning.
- Experience in building **APIs** and **data processing pipelines** using Flask, Spark and **Airflow.**
- Experience in creating data pipelines which handles huge amounts of data using Hive, spark and schedule them using control-M.
- Experience in using Relational Databases using SQLite, MS-SQL, MySql and Postgres databases with Python.
- Experienced in restful api applications development using Flask/Python.
- Working knowledge in **UNIX** and **Linux** shell environments using command line utilities.
- Experience in cloud services like **AWS (S3, EC2, RDS, ECS, SQS, CloudWatch, Fargate)** and **Azure(blob storage, VM, AutoScaling).**
- Experience with **PEP** coding convention for making code more understandable and readable.
- Experience is **database modeling** and performing **query optimization** techniques.
- Worked in both Agile and Waterfall methodologies of SDLC including DevOps, CI/CD with **Jenkins** comfortable with version control tools like **Git, Azure Devops, ZOHO** and **JIRA** for project management and bug tracking.
- Designed and implemented large scale business critical systems using Object oriented design and Programming concepts.

## /EDUCATION

- B.Tech in Computer Science and Engineering - Koneru Lakshmaiah College of Engineering, Guntur, India. [2006-2010]

## /TECHNICAL-SKILLS

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| Programming/scripting Languages | Python, Java, SQL, Shell Scripting |
| Databases/Data Warehouse | PostgreSQL, IBM Netezza, Hive, MySQL, MS-SQL, Oracle, SQLite, Cassandra, MongoDB, DynamoDB, Timestream |
| Data Engineering | Pyspark, Airflow, Pandas |
| Web Development | Flask, FastAPI, SQLAlchemy, Alembic, Swagger, OpenAPI, Docker, Docker-Compose, RESTful, Django, DRF, Jinja, html, CSS, Java Script |
| Tools | GIT, Jira, Postman, PgAdmin, MySQL Workbench, VS Code, PyCharm, Azure data explorer, Azure Devops, DBeaver, CVS, Codeship, SendGrid, CI/CD: Jenkins, CodeShip |
| Python Modules | Marshmallow, Pydantic, SQLAlchemy, Flask Restful, Pandas, Unittest, Pytest, Boto3, Flask bcrypt, black. |
| Amazon Web Services(AWS) | S3, RDS , EC2, SQS, ECS, IAM, Cloud Watch, Fargate, Timestream, Dynamodb |

| Azure | Blob storage, KeyVault, Virtual Machines, Auto Scaling, Azure SQL Database. |
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## /PROFESSIONAL-EXPERIENCE

**Syngenta**, Durham, NC, remote                                    **Sept 2022 - Current**
**Role: Senior Software Engineer**
**Description**: Syngenta is a global, science-based ag-tech company made up of Crop Protection and Seeds business units. Worked on APIs for Automatic Processing Lines for seed processing using FastAPI, Timestream and DynamoDB. Deployed the APIs using the AKS
**Responsibilities:**
- Designed and developed microservices for APL for seed processing using FastAPI.
- Used TimeStream DB for storing the Dimensions and measures for the APL.
- Used to boto-3 sdk to connect with AWS resources
- Written unit tests using pytest and pipenv for virtualenv creation
- Deployed the application to AKS using the gitlab devops pipelines
- Used JWT for authorization.
- Used swagger for api documentation

**Environment**: Python, FastAPI, Pydantic, React, Grafana, Postgres, REST, Docker, GIT, AWS AKS, SQLAlchemy, DynamoDB, TimestreamDB.

**T-MOBILE**, Kansas City, remote                                    **Feb 2022 - Aug 2022**
**Role: Senior Software Engineer**
**Description**: T-Mobile US provides wireless voice, messaging, and data services in the United States. It provided IVR support to the customers. For supporting IVR, there are many internal applications which support IVR systems. Created application and APIs to handle multiple configuration files using generic APIs, and added support for users to upload the audio files into a common git repository.
**Responsibilities:**
- Developed generic APIs for handling multiple tables for CRUD operations using python FastAPI.
- Writing test cases using Pytest.
- Create the docker file for the application
- Versined controlled the sql scripts using alembic for easy upgrades and downgrades.
- Used boto-3 to connect with AWS resources like RDS, S3.
- Used swagger for api documentation
- Used JWT for authorization.

**Environment**: Python, FastAPI, Pydantic, React, Grafana, MySQL, REST, Docker, GIT, AWS ECS, SQLAlchemy, Slack Integration.

**UL** , Hyderabad, India                                    **Feb 2021 - Feb 2022**
**Role: Senior  Software  Engineer**
**Description:** Emergo by UL is a leading regulatory consulting firm specializing in global medical device and IVD compliance and RAMS is a comprehensive solution designed to help achieve and maintain regulatory affairs. RAMS has many features like Product Classification, Smart Builder, Registration Tracker, Regulatory Watch, Global Fee finder etc.I have worked on the Registration Tracker and Regulatory Watch services to track the registrations and alert the user  when an action is needed. RT will avoid missed renewals, and save time with automated registration and certification trackingRW will alert regulatory changes and how they impact your registrations across multiple medical device markets.
**Responsibilities:**
- Collaborate with project stakeholders to understand the user requirement and convert them into technical solutions.
- Worked on backend API development using python Flask Framework..
- Written scalable and maintainable code and participating in code review sessions.
- Written unit test cases using Pytest and Unittest libraries.
- Used alembic for version controlling the sql scripts

- Using jwt token for endpoint authorization.
- Building applications using AWS cloud services.
- Used JWT for authorization.
- Collaborate with the Devops team to smooth deployment of the services.
- Created data pipelines for data processing using python and spark.
- Notify the updates to the user using SendGrid email service.
- Used boto3 to connect with AWS resources and swagger for api documentation.
- Worked on python cron jobs for scheduling daily, weekly and monthly activities.

**Environment:** AWS, Python, Flask, S3, ECS, SQS,  Fargate, RDS, GIT, Lambda, Jenkins, Sendgrid, Terraform.

**FISSION LABS**, Hyderabad, India                                                            **Jan 2020 - Feb 2021**
**Role: Senior  Software  Engineer**
**Description:** Fission Labs is a product services company, It has developed a product to make automated document processing using machine learning. The product is used to extract the meaningful data from scanned documents which are hard to digitize. There is a data pipeline divided into multiple tasks for different operations, each task will communicate with the core APIs written in python Flask to complete the work. I have worked with multiple stakeholders and architects to get the requirements and make design decisions. Worked with frontend teams for request response handshaking. involved in writing many services from scratch.
**Responsibilities:**
- Involved in full Agile SDLC in developing the python flask web services.
- worked on microservices for user management, document management, annotation management, authentication and text extraction services.
- Written unit test cases using Pytest.
- Used docker for containerization of the services.
- Developed the text extraction service with Machine Learning framework Tensorflow using CNN and LSTMs.
- Worked on  the document processing pipeline and corresponding worked on the API's for document classification, bounding box detection and text extraction.
- Worked on  postgres as a backend database for storing the data
- Worked on  redis for storing the blacklisted jwt tokens
- Worked on setting up ECS using Fargate
- Used alembic for version controlling the sql scripts
- Used boto3 to connect with AWS and moto3 for local unit tests
- Used JWT for authorization.
- Used FastAPI for model serving micro services.
- Worked on  Apache Airflow for scheduling/batch processing the data pipelines

**Environment:** Python, Flask, FastAPI, Tensorflow, React, SqlAlchemy, REST, Postgres, Airflow, PySpark, github, VueJS, Grafana, AWS (S3, SQS, ECS), Swagger, Sentry, Datadog, Grafana, Postgres, REST, GIT, Docker, Terraform, Docker-Compose, SQLAlchemy, Slack .

**PATH PRESENTER**, Hyderabad, India                                                        **Jun 2019 - Dec 2019**
**Role: Senior Software  Engineer**
**Description:** Path Presenter provides a web-based service to connect pathologists, radiologists, clinicians and life science researchers to share medical data and build tools for enhancing medical education, patient care and management. I have worked on the digital image conversion service for processing the images.
**Responsibilities:**
- Worked on python service to process the Digital Slide/Radiology images using openslide library.
- Worked on integrating the AWS secrets service in the existing code base for maintaining and securing configuration data
- Worked on conversion of digital images in parallel
- Worked on shell scripting for infrastructure maintenance.
- Worked on unit test cases with Pytest
- Supported as a backup for Angular
- Used boto3 to connect with AWS and moto3 for local unit tests
- Worked on setting up ECS using Fargate

**Environment:** AWS, OpenSlide, RDS,  Python, ECS, S3, Lambda, Fargate, autoscaling, MySQL, Flask, AngularJS, GIT

**VIRGIN MEDIA**, Hyderabad, India                                                    **JUN 2012 - May 2019**

**Roles: Software Engineer / Data Engineer**

**Description:** Virgin Media is a British telecommunications company which provides telephone, television and internet services in the United Kingdom. It categorizes the service it provides to customers into three types: cable, mobile, tv. Depending on the subscriptions it will offer all/few services as a combo or offer individual subscriptions. I have worked on multiple projects like net promoter score which is one of KPI and satisfaction across the VM customer base. Virgin media lends 5g services from other networks to provide the services to its customers. To enable 5g services  VM is transforming its network from BT to Vodafone. As part of this program I worked on enabling the services of vodafone and 5g services to virgin media customers. Worked on Fixed Mobile Convergence package to customers to deliver a single bundle which included key products broadband, tv, home phone, mobile so that the customer will pay for their cable media and mobile services at one place. There is no integration between media and mobile systems, I have worked on the integration solution.

**Responsibilities:**
- Involved in full Agile SDLC in developing the data processing pipelines.
- Used HP ALM for bug tracking.
- Worked on data pipelines using Hive, PySpark, Sqoop, Netezza and Informatica for ingestion and processing huge amounts of data.
- Ingesting data from multiple data sources like Oracle, Netezza and different file formats like csv, avro, parquet into HDFS.
- Migrated some of the jobs in netezza to aws redshift.
- Created desktop application using Java and JavaFX for processing Informatica XML mappings and workflows.
- Worked on J2EE web services.
- Written Hive and Spark SQL queries for data processing.
- Worked on SCD type-I and type-II
- Worked on performance tuning of the spark and hive queries by identifying and rectifying the performance bottlenecks on long running queries.
- Used git for version control
- Created web services using Flask framework
- Used boto-3 to get the data from S3 buckets.
- Worked on the data pipeline for the integration of mobile and cable data systems.
- Used control-M to schedule the jobs.

**Environment**: Netezza, Hive, GIT, Informatica, PySpark, Java, JavaFX, Oracle, AWS, Redshift, EC2, Shell Scripting, HDFS, Sqoop, Hadoop, Control-M, Pandas.