

# Venkata Kautilya Thanneeru

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Hyderabad, Telangana.

## Summary

Structured Python Developer bringing almost 4 years of comprehensive experience developing LLM agents/assistants, back-end components & ETL Pipelines, connecting applications with other web services and supporting front-end developers, Tech-savvy and methodical professional possessing strong understanding of front-end technologies. Familiar with server-side template languages.

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## Skills

Languages and framework: Python, JavaScript, Java, C++, Golang, node.js, SQL, PySpark, Pandas, Matplotlib Django, Django Restframewrok, Flask, Angular, Vue.

Tools and technologies: Agile/Scrum, Git, GitHub, Test Automation, Amazon Web Services, Jenkins, JIRA, AWS, Kafka, System Design, Azure OpenAI Chat.

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## Professional Experience

### Software Engineer

Simplify3x

August 2024 to July 2025

Bengaluru, Karnataka, India

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- Projects
  - Web application **chat bot** for Test automation and test data management **using AI**(Product name: AITDM, Qgen)
  - AI agent to scan and review the code base and provide insights like potential bugs, vulnerabilities and improvements(Product name: **AI Scanner**)
- Involved in developing the web application from end to end using **REACT** for front-end, **Python (fast-api)** for back-end, **MongoDB** as database and **Redis** for caching.
- Worked on developing 3 custom data tables to display data using **MUI**
- Utilized the chat completion endpoints of the **LLM** to get the intent out of user queries.
- Developed a notification service using **AWS SNS**, which notifies the user when a test case is done executing.
- Worked on creating **synthetic data** (to create **837 EDI files**) from user prompts by using **LLM**.
- Modified the inbound rules for **AWS redis** instance so that the dev instance of the BE can communicate with **redis**.
- Created **typing animation** in FE when displaying text received from BE.
- Used **GitLab** and **Azure Repos** to maintain version control for the code base.
- Wrote **media queries** so that the front-end looks consistent across all device sizes.
- Developed a stand alone AI Scanner using chat completion endpoints using **node.js** and **Azure Open AI LLM. (gpt-4, gpt-4o, gpt-3.5-turbo)**.
- Wrote a **custom file parser** to parse the code files using **AST trees**.
- Wrote a **custom code chunker** which chunks code based on the **LLM's context window limit**

- Created a **custom LLM assistant** which responds with **potential bugs, improvements** and **vulnerabilities** by using **summarization technique** because **chat completion endpoints** of **Azure OpenAI** deployments are **stateless**.
- Handle the **429** error (token limit expiry error) by calculating the token regeneration time for the current chunk based on **LLM's** token regeneration rate (token regenerated/second).
- Merged the results of different **chunks** of same file in to a single chunk using **node.js**
- Designed the architecture of the **AI scanner** by using **Kafka** so that a maximum of **1 AI scan** is in progress for 1 organization at any given point of time.
- On boarded the application to **OKTA** for authorization and authentication.
- Created a custom **JWT authenticator** in the back-end to authenticate all incoming requests.
- Recommended to develop a custom test case recommendation system to suggest similar queries to users based on **cosine similarities** and **Euclidean similarities** and **Docker** for local development.

**Tech stack:** Python, Node JS, flask, fast-api, MongoDB, MySQL, Redis, Javascript, REACT, HTML, CSS, Docker, K8s, AzureChatOpenAI, Argo CD, GitLab, Postgres, AWS, OKTA, okta-react, kafka.

## Software Engineer

CBRE

October 2022 to November 2023

Richardson, Texas, USA.

- Projects
  - Internal facing invoice generation web application(Product name: Finishline)
  - Management facing performance review web application which triggers Pyspark jobs(Product name: Broker Dashboard)
- Fixed **25% of CVE** raised by Snyk major one being SQL injection.
- **Reduced the cost by 40%** by migrating the database to AWS RDS.
- Fixed few bugs in a microservice written in **Golang**(beego and beego/orm)
- Implemented 2 custom **Kafka** pushers and integrated it with the application;
- Engineered backend of the web application and most of the Pyspark pipeline.
- Added minor features in the Front end using Angular TS.
- Created **XML** file to share with 2 different finance systems(RECD and Peoplesoft).
- Engineered Python modules to view and connect with the Apache Cassandra instance.
- Took part in the entire lifecycle of the projects, including Design, Development, Deployment, Testing Implementation, and support.
- Collaborated with a team of 5 to develop an **ETL pipeline** on **AWS EMR** with **YARN** as the resource manager.
- Worked in a **Test-Driven-Development (TDD)** environment.
- Strong working knowledge in developing Restful web services and Micro Services using **Golang**
- Worked in **agile** methodology using **Jira**.
- Created reports on existing translations in the back end which were Engineered using **Django** .
- Fetched data from various sources like **snowflake**, log files, **AWS RDS** and **AWS S3**.
- Exceptional skills in developing user-friendly, simple, yet effective web-based applications.
- Extensive experience using version control systems like **Azure repos**, **GitHub**, and **GitLab**.
- Implemented **Bash**, **Python** scripting to Automate many day-to-day tasks.

**Tech stack:** Python, Django Rest Framework, Pandas, PySpark, matplotlib, Unittests, Typescript, Angular T.S, HTML, SCSS, Golang, beego, beego/orm, Postgres, Kafka, AWS RDS Aurora PostgreSQL, Docker, Snky, Xml, Jira.

## Python/PySpark Developer

**Capital One**

Richmond, Virginia, USA.

June 2022 to October 2022

- External facing data sharing application(an **ETL pipeline**)
- Extracted data from databases of various internal applications like customer spending analysis team, loan processing team, refinancing team, etc.
- Transformed the data by applying map-reduce in **PySpark** and performed validations on the transformed data
- Loaded the data into the **One Lake** (Capital One's version of **DataLake**)
- Engineered and implemented a highly optimized application database schema, resulting in a **reducing data retrieval time by 25%**.
- Used behave (**Python library**) to follow **Acceptance Test Driven Development(ATTD)**
- Engineered a custom DLP solution tailored to Capital One's unique requirements.
- Facilitated the creation of granular policies to govern data usage and transmission both within and outside the organization.
- Conducted ongoing monitoring and optimization efforts to enhance the effectiveness of the DLP solution
- Experience creating AWS IAM Roles and attaching Policies
- Used web services like **Amazon Web Services (AWS) EC2, AWS S3, Cloud watch**
- Created a pipeline to interact. With **AWS RDS** to update, create schema of the **Aurora Postgres** database.
- Created **REST API** endpoints to perform CRUD operations on the database containing anomaly reports data using Django Rest Framework
- Provisioned infrastructure on **AWS** using a terraform like tool called One pipeline.

**Tech stack:** Python, Pyspark, Flask, Behave, Flyway gear(wrapper around alembic), One pipeline(Built on cloud formation stack and Jenkins), GitHub, AWS IAM, AWS RDS, EMR, EKS, S3, Cloudwatch, Postman, YARN.

## Web Application Developer

**FutureX**

October 2021 to March 2022

Austin, Texas, USA.

- External facing **web application/API** endpoints used to manage 7 different **data encryption** tools offered by Futurex
- Worked on automating the task of self-signing and signing the **RSA CA bundle** with **CA authority**
- Managed various user, service, key and certificate information
- Created Unittest cases.
- Implemented the **caching** system using **redis** in the **middleware** written in **Flask**.
- Automated 2 manual tasks like creating a cryptotunnel using a public API endpoint and renewing the certificates used in the cryptotunnel-guardian
- Updated the email **HTML** template using **Jinja2**.
- Fixed broken **jenkins** builds.
- Supported **QA** testers

**Tech Stack:** Python, Flask, JavaScript, Vue.JS, HTML, CSS, flask-sqlalchemy(ORM), Unittest, Postgres, Redis, GitLab, Docker, Mailhog, Jenkins.

### **Student Assistant/Web Application Developer**

**Suny Polytechnic Institute**

Utica, New York, USA.

August 2020 to December 2020

- Web application for Library management.
- Created REST API endpoints for the web application.
- Created Front End components for the web application.
- Clarified doubts.
- Evaluated the test papers

**Tech Stack:** Python, Django, Django REST Framework, JavaScript, Angular, HTML, CSS, Postgres.

### **Research Assistant**

**Suny Polytechnic Institute**

Utica, New York, USA.

February 2019 – March 2019

- Engineered, trained and tested a feed forward neural network to detect DDOS attacks based on incoming data packets.
- Performed data cleaning like normalization, removing null values, unnecessary attributes and outliers.

**Tech Stack:** Python, Pandas, Tensorflow, Matplotlib.

### **Education**

**Master of Science:** Information Science

SUNY Polytechnic Institute

Utica, New York, USA.

January 2019 to December 2020

**Bachelor of Science:** Computer Science

GITAM University

Visakhapatnam, Andhra Pradesh, India.

July 2014 to May 2018