

VIJAYASAI SANAGARAM

SOFTWARE ENGINEER

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EXECUTIVE SUMMARY

Software Engineer with diligence and programming knowledge. Proficient in various platforms, languages and with innate ability to learn and master new technologies. Have experience in the development and maintenance of both frontend and backend and have good knowledge of client and server architecture. I am a person interested in building innovative products and learning innovative software project management techniques.

TOOLS AND TECHNOLOGIES

Programming skills – Data Structures, Docker, AWS, Cloud Foundry, OOPS

Languages – Python, JavaScript, Angular, HTML and CSS

Frameworks – Flask, Django

Tools – Axure RP, JIRA, Git, Visual Studio

Familiar with – Kubernetes, CICD, Influx DB, Grafana

EDUCATION

- Vellore Institute of Technology (VIT University), Vellore
Bachelor of Technology, Computer Science
2014 - 2018

WORK EXPERIENCE

Software Engineer

Siemens Technology India

July 2018 – Present

- **Bill of Quantities**

1. Owned the development of backend of a product called Bill of Quantities. A specific use case for BOQ is to enable the user to predict domain-specific Bill-of-Quantities for projects based on a set of provided attributes and by evaluation of historical data sets.
2. It would help powerplant engineers provide an accurate high-level estimate of the materials required to set up a power plant from scratch.
3. It would help to improvise the complicated data flow and cut down the High Non-Conformance Cost (NCC) by 3.2 Million Euros considering four projects per year with scope: piping, insulation, supports, valves, and cables.

- **Key Achievements**

1. Project is developed based on REST architecture and deployments are in Cloud Foundry.
2. Managing the entire backend of the product developed in Flask framework of Python.
3. Similarity Index between the selected projects, implemented using Data Science.
4. Able to make cross connection between application in cloud foundry and database in AWS.
5. Implemented connection of two databases.
6. Implemented Swagger documentation, code quality in SonarQube and CICD test coverage in Gitlab.

- **Automatic Data Retrieval (ADR)**

1. Currently Siemens manually annotates powerplant component data (manuals, diagrams etc.). This process is highly inconsistent, labor intensive and of low quality resulting in high costs and information gaps. To avoid this, we extract metadata from a wide variety of document types automatically by using computer vision to use it in later projects.

- **Key Achievements**

1. Created secrets in AWS Secrets manager and created commands to fetch the secrets in required format for CICD through AWS CLI.
2. A cron job is set up to automate the Monitoring of server performance per day by calling the APIs of Airflow asynchronously using aiohttp framework and asyncio of python. The response we get is pushed to Influx DB (time series DB). Used Grafana to visualize the data from the Influx DB. Grafana, Influx DB and cron job are set up in AWS EKS cluster.

- **Veronica**

1. Chat bot for querying the domain related queries. Chatbot works based on target words called intents and respond to the target words. We define the intents and the kind of response for the intent.
2. Developed reusable chat component in ReactJS as well as in Angular. It can be plugged to any frontend project. The chat component is also equipped with speech recognition and web speech API.
3. Created synonyms for different intents to fetch the same response.
4. Chat bot is developed using Rasa framework.

- **Dashboard for Early Warning**

1. Developed a prototype to generate early warnings to engineers/ fabricators and they can see the changes and the intensity or importance of the change respective to their discipline as soon as the changes take place. The warnings can be added manually or using AI we add the changes. Used Axure Rp tool to develop this.

- **Data Integration Layer**

1. The project is to collect domain specific data from different powerplants and create a data lake and visualize the data. The data we receive is in different formats. So, the data undergoes ETL process and data is kept in data lake.
2. Developed test cases for a project where the data collected from different powerplants are stored in data lake.

Android Developer (Internship)

Hitachi Vantara

Dec 2016 – Jan 2017

- Gallery App to take photos and save it in local directory. It can be shared to any other app. The App has the features to take photos using camera, view all the photos taken with the camera. The saved photos can be shared to another apps.
 1. App works with the phones having Android 6.0 and above.
 2. Developed in Android Studio

HONORS & AWARDS

- Spot Award (Siemens Technology India)
For Flexibility, dedication and ownership skills on multiple use cases and commitments.

PUBLICATIONS

- iCart: An Image Selling Platform
URL - <https://ijtonline.com/AbstractView.aspx?PID=2018-8-2-2>

CERTIFICATIONS

- Hacker Rank certifications
URL - https://www.hackerrank.com/vijayasai257?hr_r=1

INTERESTS

- Cloud Technologies, Software Development, Data Science, Artificial Intelligence, Software Product Management, Agile, DevOps

PERSONAL PROJECTS

- URL - <https://gitlab.com/sngrmvj>
- **HLS stream & Weather API** - Implemented weather application using OpenWeatherMap API based on the geolocation of the user. Implemented video.js player for Http Live Streaming videos and mp4 videos. Developed using ReactJS.
URL - https://sngrmvj.github.io/ReactJs_Imps/
 - **React in Angular** - Integrated reusable components in Angular implemented in ReactJS.