

# Sai Venkata Krishnaveni Devarakonda

#1227,  
800 Bering Dr, Arlington, TX, 76013

E-mail: [sxd3125@mavs.uta.edu](mailto:sxd3125@mavs.uta.edu)  
Mobile: +1 (214)-475-0744

## SUMMARY

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I am a Computer Science Masters Graduate Student at UT Arlington currently pursuing my third semester. I am an experienced software engineer with focus on Data Science, Spatial-temporal Databases and Software Testing. I am proficient in programming languages like python and Java. I am skilled at using python libraries like scikit-learn, TensorFlow and pandas for Data analysis. I have implemented many classification, regression, and clustering algorithms from scratch as part of my course work. I am excited about opportunities to utilize machine learning in signal processing and image processing domains.

## EDUCATION

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**M.S., Computer Science, University of Texas at Arlington, TX (CGPA 4.00/4.00)**

*August 2021 – May 2023*

**Course work:** Design and Analysis of Algorithms (CSE 5311), Data Analysis and Modelling Techniques (CSE5301), Machine Learning (CSE6363), Spatial-Temporal Databases (CSE 6331), Software Testing (CSE 5321), Database Systems (CSE 5330)

**B.S., Computer Science, Jawaharlal Nehru Technological University, India (CGPA 8.2/10)** *August 2011 – April 2015*

**Course work:** Probability and Statistics, Data Structures, Object-oriented programming (Java), Software Engineering, Database Management Systems, Linux Programming, Advanced Java and Web technologies, Operating Systems

## SKILL SET

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**Programming Languages:** Python, Java, SQL, BASH, C++

**Machine Learning and statistics:** Scikit-Learn, TensorFlow, pandas

**Databases:** Oracle, MySQL

**Research Interests:** Machine Learning, Signal processing, Predictive Modelling

## KEY MASTERS ACADEMIC RESEARCH PROJECTS

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**Multiple Machine Learning Algorithms from scratch**

*Spring '22*

- Implemented various machine learning algorithms from scratch just using NumPy including regression, classification, and clustering algorithms like KNN, Gaussian Naïve Bayes, Logistic Regression, Adaboost, Decision Trees, Hierarchical Clustering, K-means, locally weighted linear regression, stochastic gradient descent etc.
- Evaluated performance of various algorithms on synthetic datasets using K-fold cross validation, Leave-one-out cross validation.

**PCA- Based Image recognition to classify Volcanoes on Venus (Python)**

*Spring '22*

- Performed PCA-based image recognition to classify Volcanoes on Venus: using PCA-based features and a k-Nearest Neighbour classifier to classify the certainty that there is a volcano in the picture from the Volcanoes on UCI Venus image dataset.
- Used Ensemble methods like Bagging to increase performance.

- Evaluated performance of the models using k-fold cross validation.

### **Spatial-Temporal Analysis of WAZE database (SpatiaLite, QGIS)**

*Spring '22*

- Analysed and visualized Traffic conditions like delays, accidents, and traffic jams in various counties in Dallas Fort Worth Metroplex using WAZE event dataset, Counties Maps and road maps using SpatiaLite and QGIS tools.
- Computed and visualized various geometric locations and spatial attributes like area, distance etc using spatial functions.
- Analysed temporal events like traffic flow throughout the day in various locations across DFW Metroplex

### **Streaming Content Management System (Netflix)**

*Fall '21*

- Implemented an end-to-end streaming content management system with user interface where users can interact with the database to obtain information regarding region and age-group specific user preferences, streaming demand based on time and region
- Identified business requirements for streaming content management system (Netflix) from owners' perspective, Established the relationship between entities using Entity Relationship model, Identified the functional dependencies among entities using Normalization, created database with empty tables and then inserted synthetic data into the created tables and developed a user interface by establishing a JDBC connection with created database using JAVA

### **Multiple Sorting Algorithms from scratch**

*Spring '22*

- Implemented various sorting algorithms from scratch using Python including Selection sort, Bubble sort, Insertion sort, Merge sort, Quick sort, Quick sort with Median and Heap sort
- Evaluated the run time complexity of various sorting algorithms and identified best sorting algorithm with large set of data

## **WORK EXPERIENCE**

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### **Associate Consultant (Software development Engineer in Test) ATOS, India**

*May 2015 – Jan 2020*

- Analyze business requirements and closely work with business team to get clarifications addressed
- Create and review test scenarios and test cases with business
- Mapped client requirements to test cases using traceability matrix
- Execute Test cases, Reporting Defects in HPALM/JIRA tool, Retesting and review the results to get the Business approval for UAT
- Selected regression test cases to be automated and performed functional testing of the front-end using Selenium (IDE and Web Driver)
- Developed and executed automated functional regression test scripts using Selenium WebDriver and java
- Experienced in giving training to functional testers to execute test cases using Selenium as part of regression testing
- Co-ordination between technology and business to ensure all the outstanding issues are being addressed, fixed, and retested
- Performed database testing using SQL
- Prepared knowledge development documents on project applications
- Performed knowledge transfer to junior team members
- Acted as a point of contact from testing team to clients and developers

## **AWARDS**

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- **Outstanding Masters Student Award, Computer Science Department, University of Texas Arlington, 2022**
- **Best Employee for Outstanding Performance, ATOS-Syntel, 2017**