SHWETHA SIVAKUMAR

(609) 917-4534 | shwetha@clemson.edu | Github | Linkedin: https://www.linkedin.com/in/shwetha-sivakumar/

EDUCATION:

Master of Science in Computer and Information Sciences *Expected Graduation:* May 2025

Clemson University, USA GPA: **3.88/4.0**

Coursework: Deep Learning in Computer Vision, Applied Data Science, Cloud Computing, Statistics

Bachelor of Technology in Computer Science and Engineering July 2019 – June 2023

Amrita University, India GPA: **3.62/4.0**

Coursework: Data Structures and Algorithms, Operating Systems, Computer Networks, Computer Architecture

WORK EXPERIENCE:

Software Engineering Intern January 2023 – June 2023

Caterpillar Inc. *Chennai, India*

- Worked as a data engineer and developed and maintained 14 data analytics dashboards using tools and technologies such as Microsoft Azure (Data Explorer), SQL, GeoPandas, Shapely, and PYODBC for monitoring and troubleshooting functionality.
- Enhanced productivity by optimizing the algorithm for retrieving machine telematics and jobsite data on a cloud-based (paas) platform, resulting in accelerated acquisition of mechanical data.

Machine Learning Intern May 2022 – July 2022

*Cyber Security for Cyber-Physical Systems (C3i Hub)***, Indian Institute of Technology** *Kanpur, India*

- Led a team of 3 in architecting and implementing a machine learning model for cyber-attack detection in web logs, resulting in a robust classification system distinguishing regular traffic, automated attacks, and manual cyber attacks with an accuracy of 97%.
- Conducted data analysis of cyber-attacks using protocols and attack types and applied subnet tracking techniques to discern and scrutinize cyber threats from 87 countries.

PUBLICATIONS/ PAPERS SUBMITTED:

1. **The 14th International Conference On Computing, Communication And Networking Technologies (ICCCNT), IIT Delhi, Delhi, India** July 2023
   Title: Health and Environment Monitoring System for Viral Respiratory Diseases

2. **International Journal of Medical Engineering and Informatics (IJMEI)** May 2023
   Title: Characterising Survival-Related Genes in Breast Cancer Patients using Cluster Analysis of Gene Expression Data

TECHNICAL QUALIFICATIONS:

- Certification of Completion – **Microsoft Azure Virtual Internship Program** under Future Ready Talent (October 2021 - March 2022)
- Cambridge Certification Authority – **Java Level 2** (December 2021)
- Microsoft Learn Student Ambassadors - Cloudy Predictions Workshop on **Machine Learning in the Cloud**
- Certificate of Completion of **Data Structures and Algorithms Course** by Coding Mafia - Coding Club India (January 2021 - February 2021)

ACADEMIC PROJECTS:

1. Respiratory Disease Detector Android Application using Computer Vision   July 2022- May 2023
Built a deep-learning (computer vision) based health and environment monitoring system (mobile app) that could detect diseases by measuring 4 vitals such as temperature, oxygen saturation and heart rate through one's smartphone camera (without specialized hardware) and safety information and also give a safety score of the environment through social distance measurement and mask detection.

2. Digital Payment Wallet Mobile App using Flutter   February 2022 - May 2022
Created and tested an end-to-end app using which one can scan QR Codes to transfer funds, chat with users, analyze expenditures through reports, and use EMI and currency calculators and converters.

3. Breast Cancer Survival Analysis by Clustering Gene Expression Data   August 2021 - November 2021
Performed survival and gene enrichment analysis on gene expression data of breast cancer patients through a clustering machine learning algorithm to find the top 40 out of 331 genes that cause low and high survival rates of patients.

4. Habit Tracker - Android Application   September 2021 – November 2021
Built an Android application (frontend and backend) that helps people cultivate new productive habits or break old ones by keeping track and reminding users of their daily activities/entries and by hosting challenges and sending notifications.

5. Voice Assistant-based Transport Database Enquiry System   August 2020 - November 2020
Designed from scratch a complete railway database (schema) and developed a 'Voice Assistant' application to answer railway-travel-related queries.

SKILLS:

- **Languages:** Python, Java, C/C++, JavaScript, HTML, CSS, Golang
- **Frameworks/Libraries:** Java Swing, Firebase Realtime Database, NumPy, Pandas, NodeJS, ExpressJS, OpenCV, TorchVision, TensorFlow, Keras, Flask, PyTorch
- **Developer Tools:** Jira, Docker, Firebase, Heroku, MySQL, Git Version Control, VS Code, Visual Studio, PyCharm, Eclipse, Jupyter, Postman
- **Technologies:** Google Cloud Platform, AWS, Microsoft Azure, SQL, MongoDB, Firebase Authentication, Data Analytics, Data Visualization, Apache Hadoop, Linux/Unix, Voice-to-Text APIs, Android App Development, Flutter, Unit Testing, Integration Testing, Documentation, Agile Methodologies, User Stories, Software Development, Machine Learning, pandas, matplotlib, Image Data Processing, Parsing, NLP, Deep Learning, Rest API, Feature Engineering, Hypothesis Testing
- **Soft Skills:** Problem-Solving, Adaptability, Teamwork, Communication