Sri Sai Naga Venkata Adithya Swarna

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**Education**

University of California, Riverside Riverside, California, USA

**Master of Science in Computer Engineering** Expected Graduation**: March 2025**

3.9/4.0

Institute of Aeronautical Engineering Hyderabad, Telangana, India

**Bachelor of Technology in Electronics and Communication Engineering** **September 2020**

8.48 with First Class Distinction

Skills

Technical: Python, Selenium, C/C++, Java, PLSQL, HTML, CSS, Fast Formulas, VHDL, CUDA C, ML Libraries.

Software & Hardware Tools: GIT, MS Office, Oracle HCM, Cadence, Arduino, Lab VIEW, MATLAB, Proteus.

Projects

**Conway's Game of Life project using GPU**

* Achieved up to 40x speedup after implementing game of life on GPU using Numba compared to serial CPU code.
* Designed & developed parallel algorithm to update game state by mapping grid cells to CUDA thread blocks for concurrent execution on GPU. Profiled & optimized kernel configuration, block size, grid shape to maximize GPU utilization & achieved high performance.
* Visualized game state evolution over generations by plotting matrices using Matplotlib animations.

**Full Swing 8x8 XOR Content Addressable Memory** (Published a [IEEE Conference Paper](https://ieeexplore.ieee.org/document/9298389))

* Published a paper on Content Addressable Memory (CAM) design at IEEE INOCON 2020 as lead author.
* Designed & validated high performance CAM architecture using advanced modeling & simulation.
* Developed robust 8x8 SRAM array with optimized memory cell design for integrated storage in CAM.
* Leveraged SRAM array for fast, reliable storage to enable sub-20ns search time in CAM.

**SpaceX Falcon 9 Landing Prediction**

* Performed EDA on SpaceX launch data using Python, SQL; built interactive Matplotlib, Folium map & Plotly dashboard to visualize key metrics.
* Trained classification models including Logistic Regression, SVM, Decision Trees using Scikit-Learn.
* Achieved 87% accuracy in predicting successful rocket landing outcomes with Decision Tree model. Identified optimal launch sites & payload mass ranges for highest success rate through analysis.

**Stock Market Data Analysis Projects**

* Extracted financial data with yfinance and Beautiful Soup, processed with Pandas/NumPy, and analyzed large historical stock datasets.
* Performed EDA on stock, housing & airline performance datasets using Python; identified trends & relationships between attributes through statistical analysis & data visualizations. Visualized key metrics with Plotly.

EXPERIENCE

Tata Consultancy Services (TCS) Hyderabad, Telangana, India

**Systems Engineer – Oracle HCM Techno Functional Developer** **January 2021 – July 2023** (2 Years 7 Months)

* Configured & implemented HCM modules (Core HR, Absence Management, & Time and Labor) through development, customization & integration enabling successful migration & reduced implementation time.
* Conducted virtual training & demos for end users by creating materials & giving presentations, ensuring successful adoption & increased productivity.
* Consistently delivered under tight deadlines & swiftly adapted to changing requirements; earned multiple commendations & promotion from Assistant to Systems Engineer.
* Built various Python scripts for unit and system integration testing.

Certifications

Algorithms (Udemy - In Progress), [IBM Data Science on Coursera](https://www.coursera.org/account/accomplishments/professional-cert/2AL2QRQ9GDFX), [Programming for Everybody](https://www.coursera.org/account/accomplishments/verify/ZJTT3HJLYDMC), [Python Data Structures](https://www.coursera.org/account/accomplishments/verify/9JYZ462488F8), [Using Python to Access Web Data](https://www.coursera.org/account/accomplishments/verify/34QL4JUDJ4MQ), [Using Databases with Python](https://www.coursera.org/account/accomplishments/verify/77ZAGJ2MQ6ET).

Other activities

1. Conducted a literature survey on LLMs and LLMs for mobile phones.
2. Developed automation scripts using **Python & Selenium** to perform web scraping & system tasks including verifying receipt of TCS offer letter.
3. Built web scraper to extract data, stored in MongoDB on AWS (Elastic-bean), and displayed through Flask site.
4. Developed a hardware-software system to detect LPG gas leakage & alert authorities using GSM technology **(IOT)**.