

Siddanth Rajan

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EDUCATION

University of Central Florida

Expected Graduation: May 2027

- *Bachelor of Science in Computer Science (Burnett Honors Scholar), Minor in FinTech*

Cumulative GPA: 3.6/4.0

- **Relevant Coursework:**

Algorithms for Machine Learning, Object Oriented Programming, Security in Computing, Robot Vision, Computer Logic & Organization, Data Structures and Algorithms I & II, Discrete Structures, Calculus with Analytical Geometry I & II

Certifications: AWS Certified Cloud Practitioner (CLF-C02), AWS Certified AI Practitioner (AIF-C01)

WORK EXPERIENCE

UCF Area 67 Lab

Orlando, Florida

Parallel Computation Researcher

August 2024 – Present

- Conducted **10+** controlled HPC experiments using **LDMS** samplers, PAPI, perf, and Intel APERF/MPERF counters, capturing over **50 GB** of CPU, memory, and I/O behavior under idle and high-memory-load conditions
- Developed heuristics to detect multi-threading synchronization delays by creating synthetic benchmarks with per-core staggered arrivals, improving classification accuracy of idle versus stalled CPU cycles by **25%** in simulated workloads
- Established a **Linux-based Vagrant** testbed for **Lustre** plugin development and automated multi-version provisioning of Lustre client/server instances, ensuring reproducibility and cutting environment setup time by over **95%**

PROJECTS

Liquidity Stress Testing Simulator *JavaScript, HTML, CSS, React*

- Created a full-stack financial liquidity stress testing platform simulating **30-day** cash flow forecasts and credit line behavior under stress scenarios, enabling early detection of cash shortfalls for faster and more accurate decision-making
- Engineered a dynamic simulation engine that models inflows, outflows, and credit utilization across multiple adverse cases, achieving **92%** accuracy in predicting liquidity shortfalls using real-time user input and simulated datasets
- Reduced manual financial scenario planning time by over **80%** through an interactive dashboard and automated stress testing logic, integrating a **Node.js** backend and **RESTful APIs** for fast, secure scenario storage and retrieval

Sentiment Analysis Trading Bot, *Python*

- Devised Python scripts to scrape financial and sentiment data using Twitter and Alpha Vantage APIs for sentiment and stock market data, ensuring a large, comprehensive dataset and an **18%** improvement in prediction accuracy
- Automated the end-to-end data collection pipeline using **BeautifulSoup**, **Selenium**, and **pandas**, enabling scheduled, continuous updates with near-zero downtime and reducing manual intervention by over **90%**
- Deployed the trading bot using a custom **APScheduler**-based scheduler in Python, achieving **83%** directional accuracy in fully autonomous trades executed based on sentiment thresholds, which contributed to an increase in overall returns

NBA Player Stats, *JavaScript, HTML, CSS, React, Python*

- Built a React application that pulls live NBA player stats from the Rapid NBA API and runs **PyTorch/TensorFlow** models to forecast next-game points/rebounds/assists, achieving **88%** directional accuracy on a held-out test set
- Optimized data extraction and transformation by establishing an ETL pipeline that processed and transformed large data sets daily, reducing model MAE/RMSE and increasing player performance prediction accuracy by **15%**
- Designed and developed a dynamic frontend in **React** to visualize player performance, implementing responsive layouts, interactive charts, and intuitive search functionality to enhance user experience across devices

INVOLVEMENT

Knight Hacks

- Helped facilitate Java workshops to help educate newcomers and beginners in syntax, development, and libraries
- Attended hackathons and joined the developer team, working on team projects specializing in legal, fintech, and risk

TECHNICAL SKILLS

Languages: Java, C, C++, Python, Java Script, HTML, CSS, Dart, Rust, SQL, R, Go, Kotlin

Frameworks: PyTorch, PySpark, TensorFlow, React, Angular, Swift UI, Flutter, Spring, ASP.NET

Developer Tools: Git, Docker, Kubernetes, VS Code, Eclipse, IntelliJ, Vagrant, Power BI, Tableau

Libraries: Pandas, Selenium, BeautifulSoup