SAI KIRAN NANDIPATI

Computer Science Graduate | Software Developer | Data Scientist

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Education

MS in Computer Science (Data Science) **Normal, IL, US** **Aug 2022 – May 2024**

Illinois State University (GPA – 3.6/4.0)

Course Work: Adv Software Engineering, Adv Database Management Systems, Data Science with ML, Adv Operating Systems, Big Data , Data Analytics.

B- Tech Electronics & Communication Engineering (Computer-Engineering) ` **A.P, India** **April 2018 – May 2022**

R.V.R & J.C college of Engineering (GPA – 8.6/10.0)

Course Work: Computer Algorithms, Data Structures, Web Development, Software Engineering, Distributed Systems, Computer Architecture, Computer Networks.

Skills

Programming: Java, C++, Python, JavaScript, HTML5, CSS, Shell Scripting, React JS, Angular .

Tools, Technologies & Frame Works: Spring Framework, REST API, Spring JDBC, Hibernate, Machine Learning, Spark, Kafka, GIT, VS Code, Jira, Wix.

Database & Cloud : MY SQL, ORACLE SQL, Dynamo DB, AWS(EC2 ,S3, GLUE, Amazon EMR, Sage Maker, Kinesis, Quick Sight)

Libraries: Pandas, NumPy, PySpark, Keras, TensorFlow, Scikit-learn, Stats Models, PyTorch, Matplotlib, Seaborn, Plotly, NLTK.

Work Experience

Graduate Research Assistant **Illinois State University** **Normal, IL, US** **May 2023 – Present**

- Collaborated with the **Ochsner Research Group** for the past **2** years, applying computational methods to **healthcare** by designing **research pipelines** that integrate clinical and non-clinical data for **machine learning prediction models**.
- Processed millions of **EHR's** with complex **SQL** queries on **EPIC (ClARITY)** data base, managed cloud-based data projects, and implemented analytics pipelines using Apache Spark, Python, and SQL, produced reports and Jupyter notebooks, mastered **OMOP** and Observational **OHDSI** tools, and laid the foundation for **3 research papers** through weekly faculty collaboration meetings.
- Designed **predictive models** using **supervised machine learning,** improving prediction accuracy by 15%, reducing error rate by 20%, and enhancing R^2 score by 45% over existing models.
- Implemented **classification models** (Random Forest, SVM, XG-Boost, Logistic Regression), achieving 90% accuracy in categorizing metrics.

Software Engineer **Cognizant** **Hyderabad, India** **March 2022 – Oct 2022**

- Developed scalable **RESTful APIs** and microservices with **Spring Boot**, integrating **Kafka** for secure, efficient messaging. Delivered responsive **SPAs** using **Angular, HTML, CSS3, Bootstrap**, and **JSON** for dynamic user experiences.
- Conducted **scalability, load,** and **endurance** tests, analyzed results to ensure application performance, and identified and resolved bottlenecks, reducing incident reports by **25%**.
- Managed activities and customer expectations while coordinating test plans with the **architect team**, improving testing efficiency by 20% and boosting client satisfaction.
- Crafted comprehensive documentation for **15+** applications, reducing client inquiry response time by 40% and ensuring timely updates were consistently delivered. Also, designed and implemented **automation** scripts, increasing test coverage, and reducing manual testing efforts by 25%.
- Extracted, transformed, and loaded (**ETL**) data from **Oracle, SQL Server**, and **Excel flat** files into centralized data warehouses using advanced transformations such as Aggregator, Filter, and Lookup in **Informatica Power Center**.

Projects

Hospital Management System (HMS) | Java, HTML, CSS, Java Script, SQL, Git, Spring boot

- **Developed a Responsive Hospital Management System (HMS)**: Engineered a full-stack application using **Spring Framework (Spring Boot, Spring REST, Spring JDBC)**, **Hibernate**, **MySQL**, and front-end technologies (**HTML, CSS, JavaScript**) to streamline patient care and database management with features like online appointment scheduling.
- Designed and integrated critical HMS modules such as **prescription management**, **bill generation**, and **online payment processing** using **Spring Boot** and **MySQL**, ensuring seamless user experience and operational efficiency.
- Delivered high-quality software by following **SDLC** methodologies, leveraging **Git** for version control and ensuring maintainable, scalable code across all layers of the application.
- Utilized **Spring JDBC** and **Hibernate ORM** to streamline medical record management and appointment scheduling, ensuring efficient data handling.
- Validated and deployed key functionalities that improved healthcare facility operations, such as real-time **appointment booking** and **medical record management**, leveraging **Spring REST APIs** for secure and efficient data communication.

Data Insight Dashboard | HTML, CSS, Java Script, Node.js

- Devised and integrated popular visualization methods, including **interactive linear Regression, bar, tree, and intensity plots**, for diverse data sets, increasing user engagement by 35%.
- Performed data cleaning and preprocessing using **Python (pandas),** reducing errors, and broadening visualization scope by 20%.

Little Frishy's LLC | Wix | UI/UX

- Led and contributed for developing a real world website for a **small fishing lure business**, facilitating an efficient online sales and content management using **Wix**, increased their sales by 40%.

Ochsner Emergency Department Overcrowding Scale (OEDOCS2.0) | ML, Python, SQL, Scikit-learn, Tensor flow

- Constructed and optimized data pipelines using **PySpark, SQL**, and **Python** to process millions of health records, including **feature extraction, data cleaning**, and **preparation** of high-quality datasets for machine learning models.
- Developed Ochsner Emergency Department Overcrowding Scale (OEDOCS 2.0), improving ED crowding prediction with a 20% reduction in **RMSE** and a 40% enhancement in **R2** score, overcoming limitations of the National Emergency Department Overcrowding Study (**NEDOCS**).
- Led the development of a Full-fledged automated supervised machine learning prediction pipeline, testing **24** ML algorithms and achieving nearly 75% accuracy.
- Automated patient classification into fast acute or acute tracks using **K-means** and **DBSCAN** clustering algorithms, significantly enhancing emergency department efficiency by achieving a **high Silhouette Coefficient** and minimizing **inertia** between clusters through precise patient categorization.
- Utilized Python and advanced machine learning techniques to analyze and visually represent workflow patterns in collaboration with the Ochsner Research team.

Extra-Curricular Activities

- Contributing as a Data Scientist in research communities like **N3C** (National COVID Cohort Collaborative), advancing healthcare research by developing **Big data** and **Machine learning pipelines**, and performing in-depth analysis of **EHR** data to support **innovative research initiatives**.
- President of **Code Chef-R.V.R,** led a team of **200** in organizing technical events and coding competitions, earning an "**Award for Excellence**" from the chancellor of R.V.R & J.C College of Engineering.
- Mentored over **20** high school students in math and English, improving their average grades by 15% through well-prepared **lesson plans** and coordinated activities with fellow volunteers.