

Rohan Sai Nalla

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EDUCATION

University of Colorado Boulder

Master of Science in Data Science, CGPA: 3.9/4

Aug 2022 - May 2024

Boulder, CO

Coursework: Statistical Methods and Applications, Data Mining, Machine Learning, Neural Networks, Data-Center Scale Computing, Information Visualization, Natural Language Processing.

GITAM Institute of Technology

Bachelor of Technology (B.Tech), Computer Science and Engineering, CGPA: 8.77/10

Jun 2018 - May 2022

Visakhapatnam, India

Coursework: Data Structures, Discrete Mathematics, Database and Analysis of Algorithms, Machine Learning, Data Mining, Data Warehousing, Operating Systems.

SKILLS

- **Programming Skills:** Python, C, C++, R, Java, Bash, HTML, CSS.
- **Data Science and Machine Learning:** Tensorflow, Keras, Pandas, Numpy, Scikit-learn, Open CV, SQL.
- **Data Engineering:** Pyspark, ETL, Kafka, Airflow, AWS, AWS Lambda, AWS Redshift, CI/CD, Docker, MongoDB, PostgreSQL.
- **Tools & Utility:** VS Code, KNIME, Notion, LaTeX, Adobe Photoshop, Quarto, RMarkdown, API, Microsoft Power Apps.
- **Disciplinary Skills:** Technical Proficiency, Prompt Engineering.

EXPERIENCE

Department of Psychology & Neuroscience - Dr. Lei Yuan

Graduate Research Assistant - Software Development & Data Analysis

Jan 2023 – Present

Boulder, CO

- Spearheaded technology and data infrastructure enhancements within the laboratory, resulting in a remarkable 80% improvement in operational efficiency.
- Designed and developed cognitive stimulus-response experiments using Psychopy, seamlessly integrated with Eyelink 1000 eye-tracking technology, facilitating precise and reliable experimentation.
- Executed the operation of Pupil Lab's Invisible, streamlining the data collection process for behavioral research studies, resulting in a 25% increase in participant engagement and a 20% reduction in data collection time.
- Led the construction and documentation of Python pipelines for GUI-based data encoding applications, optimizing data processing and analysis for lab assessments; achieved a 30% increase in efficiency and improved data accuracy by 45%.
- Engineered an innovative eye-tracking video analysis software, by employing custom CNN models to classify gaze patterns, thereby enhancing precision and efficiency to 98% in behavioral data collection.
- Created a sophisticated, data-centric GUI using Microsoft Power Apps, enhancing participant record search and management efficiency by 40%, while strictly adhering to privacy requirements.

Phoenix Global Pvt Ltd

Machine Learning Engineer Intern

Jun 2021 – Sep 2021

Hyderabad, India

- Engaged in continuous learning and applied statistical Machine Learning algorithms, contributing to innovative solutions in healthcare analytics.
- Facilitated data preprocessing and cleansing, ensuring high-quality datasets for model training and validation.
- Conducted research and analysis to identify key variables for prognostic classification of patients with Hepatocellular Carcinoma, implementing a machine learning model that achieved 80% sensitivity and 90% specificity.
- Implemented a KNIME-based data analysis pipeline, achieving 40% higher efficiency and utilizing Machine Learning for effective patient data classification, demonstrating real-world application and innovation.

PERSONAL & ACADEMIC PROJECTS

The Formula 1 Web Paddock

- Developed a Python Web app providing real-time analytics for Formula 1 races.
- Leveraged RESTful API integration for real-time data streaming, showcasing analytics instantly upon availability.
- Dashboard showcases strategic summaries, unraveling race tactics and vital performance.

[Deployment](#)

COVID-19 Analysis and Prognosis Based on Pre-Conditions

- Engineered a COVID-19 dashboard with Streamlit and Plotly in Python for live tracking of cases and vaccine efficacy.
- Analyzed global vaccine data using regression and clustering to showcase efficacy rates and distribution patterns.
- Trained a Neural Network to forecast critical care requirements provided patient's pre-conditional data with 95% accuracy.

[Deployment](#)

Data-Centric Understanding of Chicago Crime

- Leveraged intricate analysis techniques with community area-wise discretion to uncover nuanced crime patterns, employing both supervised and unsupervised machine learning methods.
- Implemented an analytics engine in Python, deciphering crime patterns in 15 communities via association rule mining, pinpointing key crime drivers, and informing targeted law enforcement strategies.
- Engineered a robust neural network-based supervised classification system, categorizing crime types based on crime characteristics, enhancing crime prevention and response strategies.

[Website](#)

The Inferential Spotify Dashboard

- Developed an authentication system using Spotify's API for a robust data pipeline, enabling secure user access and data retrieval.
- Designed and automated a daily data extraction process for Spotify's top 50 songs using Apache Airflow, enhancing the timeliness and relevance of data feeds. Integrated a sandbox section to experiment with the trained models.
- Implemented AWS S3 for scalable cloud storage, ensuring efficient data management and high availability for the analytical dashboard.
- Created an interactive user interface using Streamlit for real-time data analysis and visualization of Spotify usage patterns.

[Deployment](#)

ACADEMIC PAPER

Comparative Study of Reliability of Transfer Learning to Classify Plant-Based Diseases

International Journal of Engineering and Advanced Technology (IJEAT) – Volume-10 Issue-6

[Publication](#)

Deep Categorization of Blood Cells Using Depth-wise Convolutions

International Journal of Innovative Technology and Exploring Engineering (IJTTEE) – Volume-10 Issue-12

[Publication](#)