

Rajkanwar Singh

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WORK EXPERIENCE

Data Science Intern | 06/2024-Present

Neuralix.ai

- Designed an H2O Wave dashboard template adopted by a 6-member data science team, accelerating the creation of proof-of-concept dashboards within 2-3 hours.
- Conducted time series analysis on 9 water pumps for a prominent US-based client.
- Implemented a PDF RAG search-based chatbot with Gemini as the foundation model within 1 week.

PROJECTS

Malicious Sensor Detection Big Data Pipeline | 04/2024-06/2024

- Deployed Docker microservices with 99.9% uptime, ensuring reliable service.
- Enhanced PostgreSQL performance by 50% for both batch and real-time data processing.
- Managed 1 million data streams per minute using Apache Kafka for robust data ingestion.
- Built a Flask API with a 200ms response time, supporting 10,000 requests per second.
- Utilized Apache Flink for real-time ML predictions and dynamic model retraining.
- Processed data from 1000 sensors with 25 features, including undersampling to address class imbalance.
- Trained 30 model combinations with 5 ML algorithms for classification, 3 deep learning algorithms for feature selection, and 2 optimisation algorithms achieving 99.98% accuracy with the XGBoost classifier.
- Performed feature importance analysis and rigorous model validation to ensure high robustness and reliability.

Starbucks Beverage Recommendation System | 06/2023-06/2023

- Cleaned and analyzed Starbucks Beverage Nutrients dataset with 242 entries.
- Applied RandomForest Classifier with 75% accuracy for beverage recommendations.
- Integrated the system into a React app with FastAPI within 24 hours

SPPRS: Smart Package Sorting and Retrieval System | 01/2023 - 05/2023

- Designed an automated package handling system using machine vision and a robotic arm, reducing package handling time by 40%.
- Integrated geared motors and camera-based OCR for efficient package identification, achieving an accuracy rate of 75%.
- Implemented RFID sensors for one-tap package retrieval, resulting in an 80% reduction in manual intervention.

Home Assistant Server with Frigate NVR on an Old Intel x86 Laptop | 08/2022

- Repurposed an old Intel x86 laptop into a home assistant server, reducing hardware costs by 80%.
- Installed Linux, Docker, and Frigate NVR for CCTV object detection.

CRAFT: Certificate Registration and Verification Tool | 06/2022

- Developed a certificate generation and verification system using Google Sheets and Apps Script, reducing certificate processing time by 70%.
- Automated certificate management and verification processes, resulting in a 90% reduction in manual effort.
- Collaborated with MCM DAV College, Chd for successful implementation, delivering e-certificates to 500+ recipients.
- Achieved 100% on-time delivery of e-certificates, ensuring a seamless and efficient certificate management system.

RESEARCH & PUBLICATIONS

Statistics and Machine Learning based Decision-Making for Diet Beverage Choice and Recommendation through Software Application. *Journal of Advanced Research in Applied Sciences and Engineering Technology, Semarak Ilmu Publishing.* October 2024. DOI: 10.37934/araset.57.2.2840

Inflation's Impact on the Investment Strategies of Scheduled Commercial Banks: A Regression Analysis. *INTERNATIONAL JOURNAL OF NOVEL RESEARCH AND DEVELOPMENT.* Aug 7, 2024

Exploring the Potential and Challenges of ChatGPT in E-Commerce Applications: A Comprehensive Review. *Real-Time Data Decisions With AI and ChatGPT Techniques.* May 2024. dx.doi.org/10.4018/979-8-3693-2284-0.ch007

Reinforcement Learning Approach in Supply Chain Management: A Review. *How Machine Learning is Innovating Today's World: A Concise Technical Guide.* SCRIVENER PUBLISHING & WILEY (pp.253-283). May 2024.

doi.org/10.1002/9781394214167.ch17

Navigating the Technological Landscape: Addressing Challenges in Sustainable Business Practices. *SUSTAINABLE BUSINESS AND INFORMATION TECHNOLOGY.* February 2024. DOI: 10.25215/9392917880

EDUCATION

VIT-AP University

B.Tech Computer Science and Engineering | 07/2025

CERTIFICATES

- AWS Certified Solutions Architect Associate
- AWS Certified Cloud Practitioner
- Machine Learning Training by Boston Training Academy powered by Intel® Software
- Applied Data Science by IBM

HACKATHONS & COMPETITIONS

VIT Campus winners- Tata Elxsi Teliport Challenge | 12/2023

3rd Position in VLaunchPad Annual National Business Plan Competition for Agritech Innovation | 01/2023

Finalist in HACK-23 International Hackathon for Sustainable Innovation | 07/2023

CO-CURRICULARS

ACM Student Chapter VIT AP

Club Manager | 09/2021-06/2024

- Managed ACM Student Chapter VIT AP as Club Manager from 08/2023 to 06/2024, overseeing external affairs and coordinating with 5 clubs of the university to organize events.
- Automated event report generation of 75+ clubs of the university, reducing manual effort by 50% and improving internal processes.
- As External Affairs Lead (08/2022 - 08/2023), facilitated over 10 pro bono events, collaborated with companies, and automated member performance evaluations, cutting down manual work by 95%.

VIT-AP SCHOOL OF BUSINESS (VSB)

Event Student Coordinator | 10/2022

- Organized guest talk featuring Mr. Aman Goel, Founder, Cogno AI, a \$1.5 million AI-led enterprise communications startup.
- Managed a 7-member student team, overseeing tasks and moderating an online MS Teams event with 300+ participants.

SKILLS

Programming Languages: Python, YAML, Java, R

Big Data Analytics Tools: Kafka, Flink, Hadoop

Machine Learning Frameworks: TensorFlow, scikit-learn

Dashboard Tools: H2O-Wave, plotly

Virtualisation: Docker

Databases: MySQL

Cloud Computing: AWS

Misc: FastAPI, React, HTML, CSS

Office Skills: Microsoft-suite, Google workspace

Soft skills: Communication, Leadership, Analysis, Writing