

SRUJAN RANA

Bhubneswar, Odisha

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Experience

AI/ML CoLead

September 2024 – Present

Google Developer Groups On Campus | SUIIT

Sambalpur, Odisha

- Assisted the club leader in advising and mentoring students on AI/ML projects, resulting in skill development and excellent project outcomes.
- Promoted a collaborative and problem-solving culture, encouraging teamwork and innovation across many teams, which contributed to the club's overall growth and development.

Summer Research Intern

May 2024 – June 2024

Department CSE | NIT Raipur

Raipur, Chhattisgarh

- Developed and built a voice stress analysis model utilizing Mel Frequency Spectrogram features under the guidance of **Dr. Pradeep Singh, HOD Department of CSE at NIT Raipur.**
- Integrated CNN with BiLSTM, and includes a self-attention layer to increase accuracy by focusing on key input patterns, resulting in improved performance and reliability.
- Conducted extensive hyperparameter tuning, pushing the model to achieve 92% accuracy and boosting operational efficiency by 80% ensuring reliable and consistent results.
- Successfully deployed the model on Google Cloud Storage bucket, allowing secure, scalable storage and seamless retrieval for integration with a Flask-based web interface, enhancing user experience and facilitating real-time stress detection.

Projects

Cyprus : PII Protection and Verification System | [GitHub](#) | Python, Django, OCR (Tesseract-OCR), AES-256 Encryption

- Developed a web-based system to extract and mask sensitive PII from government-issued documents. Enabled secure document verification by connecting users with verifying officers, reducing paperwork and promoting sustainability.
- Increased operational efficiency by 60% and accuracy by 70% by utilizing Tesseract OCR for sensitive data extraction and applying AES-256 encryption to secure data transmission, ensuring compliance with the CIA triad in cybersecurity.
- Replaced traditional verification methods with a scalable, digital solution to streamline official processes.

Potato Disease Classification | [GitHub](#) | [Live](#) | Python, Flask, OpenCV, GCP Bucket, CNN

- Fine-tuned a CNN model for potato disease classification, achieving 90% accuracy on a specialized dataset.
- Developed a real-time disease classification system using deep learning for accurate diagnosis from images.
- Deployed the model on Google Cloud Storage, utilizing its scalable infrastructure for efficient access and management.
- Integrated the classification model with a Flask-based web interface, enhancing user interaction and real-time analysis by 70% .

Shopping Management System GUI | [GitHub](#) | Java(OOPs,Applet, JavaFX), Eclipse, MySQL, JDBC

- Developed a fully functional shopping and inventory management system with payment and transaction modules.
- Used JavaFX to create a GUI that supports actions such as creating an account, deposit, withdraw, list all accounts, etc.
- Utilized JDBC for seamless MySQL connectivity and implemented object-oriented programming practices such as inheritance to create different account types and databases.
- Improved tracking accuracy by 70% and boosted operational efficiency by 60% through optimized transaction logging and database-driven user account management.

Technical Skills

Languages: Python, Java, C, SQL (MySQL), HTML/CSS, LISP, LaTeX

Languages/Frameworks: Pandas, NumPy, Matplotlib, Seaborn, Plotly, Flask, ScikitLearn, TensorFlow, Keras, NLTK, SpaCy, Hugging Face (Transformers)

Environments: Linux(Ubuntu), Windows, Git, GitHub, Docker

Developer Tools: Google Cloud Platform, Jupyter Notebooks, VS Code, PyCharm, IntelliJ

MLOps & Deployment: Model Deployment, Serving APIs (FastAPI, Flask), Cloud-based ML (Google Cloud AI)

Core Subjects: Data Structures and Algorithms, Operating Systems, DBMS, Object-Oriented Programming

Coursework: Machine Learning, Advanced Learning Algorithms, Neural Networks, Deep Learning, NLP, DataVisualization, Time Series, Probability & Statistics, Linear Algebra, Advanced Calculus

Education

Sambalpur University Institute of Information Technology (SUIIT)

August 2022 – May 2026

B.Tech. in Computer Science (AI & ML) | GPA: 8.198

Burla, Odisha

Indian Institute of Technology Madras(IIT Madras)

January 2024 – January 2027

Bachelor of Science (Data Science) | GPA: 8.5

Madras, Chennai