Shreedeep S Nair

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EDUCATION

Indiana University, Bloomington, USA **Aug 2023 - Present**
Master of Science in Data Science (CGPA: 3.53 / 4)
Relevant Coursework: **Machine Learning**, **Applied Statistics**, **Data Visualization**, **Database Technologies**, **Deep Learning**

WORK EXPERIENCE

Rebisken Group, Bloomington, USA **Aug 2024 - Present**
Data Science Intern

- **Engineered** scalable **ML models** using **Python** and **PyTorch**, optimizing feature engineering and preprocessing pipelines, improving accuracy by **20%**.
- **Conducted SQL**-based data analysis, optimizing queries and indexing strategies, reducing execution time by **30%** for faster insights.
- **Deployed** models on **AWS** with containerized solutions, integrating with **REST APIs** for real-time inference and automation.
- **Collaborated** on evaluating and integrating emerging AI technologies to improve workflows and data integration strategies.
- **Contributed** to the creation and maintenance of technical documentation, ensuring best practices and efficient project execution.

Indiana University Bloomington, USA **May 2024 - Jul 2024**
Research Assistant – GeoAI Project

- **Applied deep learning** for geospatial analysis, enhancing land classification accuracy by **25%** through **CNN**-based feature extraction.
- **Built** an automated annotation pipeline, reducing manual labeling efforts by **40%**, improving dataset usability for AI research.
- **Integrated 3D imaging techniques** with **nnUNet**, refining geospatial segmentation for precise urban and environmental mapping.

Wadbros Imports and Exports, Mumbai, India **Feb 2022 - May 2022**
Data Science Intern

- **Analyzed** log data for anomaly detection and system optimization, improving processing speed by **30%** and reducing failures by **20%**.
- **Developed** predictive models for demand forecasting, reducing excess inventory by **15%** and optimizing supply chain efficiency.
- **Designed Power BI** dashboards, consolidating key metrics and automating business reporting for enhanced strategic decision-making.

SKILLS

- **Programming: Python**, **SQL**, **R**, **JavaScript**, **HTML**
- **Machine Learning: Supervised/Unsupervised Learning**, **Deep Learning**, **Time Series Analysis**, **Generative AI**, **Clustering**, **Regression**, **Classification**
- **Frameworks: PyTorch**, **TensorFlow**, **scikit-learn**, **XGBoost**, **Keras**
- **Visualization: Tableau**, **Power BI**, **Matplotlib**, **Seaborn**, **Plotly**, **Databricks Dashboards**
- **Databases: MySQL**, **PostgreSQL**, **MongoDB**, **Google BigQuery**, **Unity Catalog**
- **Cloud/Tools: AWS**, **GCP**, **Docker**, **Git**, **MLflow**, **Streamlit**, **Databricks**, **Command Line**, **Version Control**
- **AI/ML Techniques: CNNs**, **Transformers**, **RNNs**, **Linear Programming**, **Feature Engineering**, **Recommendation Systems**, **Hypothesis Testing**, **Cost Forecasting**
- **MLOps: Model Monitoring**, **Model Deployment**, **Pipeline Automation**, **Dashboard Automation**
- **Domain Knowledge: Healthcare Data Analysis**, **High-Performance Computing**, **Interdisciplinary Collaboration**

PROJECTS

Recyclobot – Smart Trash Sorting Robot **Sep 2024 - Dec 2024**

- **Developed** an AI-powered robotic system integrating **ML** and **computer vision** to autonomously detect, pick, and sort recyclable and non-recyclable waste.
- **Engineered** an interactive **emotion-display system**, increasing user engagement and recycling participation rates.
- **Optimized** classification accuracy using **CNN-based object detection**, improving waste-sorting efficiency for sustainability initiatives.

Bitcoin Price Prediction **Aug 2021 - May 2022**

- **Built ML models** using **LSTM** and **ARIMA** to forecast Bitcoin prices, achieving **75% accuracy**.
- **Conducted** backtesting and feature engineering, improving model robustness.
- **Published** findings in **IRJET**, demonstrating financial forecasting methodologies.

Medical Image Segmentation on LITS Dataset **May 2024 - Aug 2024**

- **Implemented 3D-UNet** and **nnUNet** architectures for liver tumor segmentation on **CT scans**.
- **Used active learning** to refine predictions, reducing manual annotation workload by **40%**.

PUBLICATIONS

Bitcoin Price Prediction for Long, Short, and Medium Time Frame **Mar 2022**
International Research Journal of Engineering and Technology (IRJET), Volume 09, Issue 03.