Sourav Panda

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Overview

I am a highly self-motivated individual with an MSc in Data Science from the University of Bath. Currently excelling as a Data Scientist at Yunex Traffic, applying 3+ years of analytical experience to extract meaningful insights from data. Thrive in fast-paced environments by leveraging analytical thinking to tackle challenges with ease. Committed to continuous learning and remaining up to date on emerging technologies. Inherent curiosity drives enthusiasm for taking on new initiatives and I am eligible for graduate visa.

Skills

- **Technical Skills:** Python (Scikit-learn, Pandas, NumPy, TensorFlow, sqlite3), Data Visualisation (Plotly, Seaborn, Matplotlib), SQL, Machine Learning, Tree-based methods, Support vector Machine, Deep Learning, Docker, AWS (Sage maker, S3, IoT), Microsoft Azure, GIT, flask, Linux.
- **Frameworks and Tools:** Microsoft Excel, Business Objects Business Intelligence, Data Warehouse, Reporting in WebI (Web Intelligence), Power BI, bexQuery and Unity.
- **Soft Skills:** Communication, Teamwork, Leadership.
- **Certifications:** Microsoft Azure-900 certified, Generative AI with Large Language Models.

Work Experience

Yunex Traffic Poole, UK

Data Scientist R&D Aug 2022 - Aug 2023

- **Developed AI chatbot prototype by leveraging Large Language Models (LLMs):**
  - Prototyped chatbot using FLANT 5 from hugging face as base LLM after trying various models by prompt engineering method.
  - Used LoRA for fine-tuning and iteratively experimented with different LLM models to maximize performance.
  - Presented prototype, proposed roadmap for additional capabilities, and conducted learn and grow session to educate engineering team on chatbot technology.
- **Automatic car parking using camera:**
  - Architected and deployed neural network model with base model as mobile net, using transfer learning to classify 196 car types with Flask web app on AWS.
  - Boosted model accuracy by analysing and reducing to ten classes using statistical methods for edge deployment.
  - Enhanced in/out car detection by extracting and processing data from video analysis. Calculated angle and length by designing and implementing efficient classification using KNN clustering algorithm.
- **Analysed product performance of different traffic controllers:**
  - Collected and cleaned traffic data from multiple sources to ensure quality.
  - Performed univariate and multivariate analysis. Using regression modelling to understand the impact of parameters on delay time.
  - Generated insightful Power BI dashboards with interactive visuals to provide actionable insights to stakeholders.
  - Synthesized findings into executive summary report highlighting competitive benchmarking and recommendations.
- **Sensory data collection on 5G router:**
  - Engineered improvements to legacy architecture and upgraded to 5G router, enabling 2x increase in data collection speed from sensors.
  - Designed virtual access points and built IoT testing framework that validated new infrastructure and decreased defects by 40% pre-deployment.
  - Created Docker image to standardize and scale data collection application and git repository.
- **Business Impact project to optimize factory training through AR simulation:**
  - Reduced new hire training time by 50% and increased factory efficiency 20% through immersive learning.
  - Partnered with cross-functional teams to identify improvement opportunities.
  - Conducted analysis to assess operations, pinpoint pain points, and proposed AR solutions to streamline training.
  - Developed immersive AR Unity simulation using ARKit to replicate factory environment.

- Designed interactive 3D experiences replacing lengthy training manuals.

Accenture Bangalore, India
Analyst July 2019 - Aug 2021

- Worked in media and travel domains, handling large data from a variety of sources, and identifying client problems to formulate data-driven solutions in agile environment.
- Managed data warehousing and developed reports writing SQL queries in SAP BO web intelligence tool and migrated 1500+ BI reports in 1 week by implementing new technique to remap fields, enabling on-time delivery.
- Modelled data in SAP BW and built visualizations driving data-based decision making.
- Designed customer dashboards and analytics unlocking self-service visibility into metrics Integrated data from disparate systems into unified BI reports and dashboards.
- Maintenance and data loading into reports by merging cleaning and handling data from various data sources.
- Data modelling using Information Design Tool in an iterative method by modelling the schema.
- Performed end-to-end data modelling in sap BW s/4 Hana using csv file.
- By working at Accenture in client facing role, I have improved my negotiation and communication skills in dealing with clients

Vedanta Jharsuguda, India
Intern May2017 -July 2017

- Implemented new runtime strategy reducing power costs by £755 annually and decreasing wear and tear on machinery by analysing the data of different parameters like heat and humidity.

Education

MSc Data Science, University of Bath Sept 2021-2023 Bath, UK

- Expected average of 71.3%.
- **Relevant Modules:** Applied Data Science (77), Statistics (84), Machine Learning (72.5), and Software for Data Science (82), Bayesian machine learning (80)

B-Tech, Electrical and Electronics Engineering, SRM June 2015 - 2019 Chennai, IN

- Graduated with an average of 81.77% first class with distinction.
- **Relevant Modules:** Calculus (88), Discrete Mathematics (88), Probability and Statistics (80).
- Led solar racing team to win Future Car award; spearheaded final year project applying image processing for energy conservation.

University Projects

Evaluating Demucs for Waveform Domain Music Source Separation Bath, UK
University of Bath May 2022 - June 2022

- Analysed music source separation techniques comparing waveform and spectrogram domain approaches.
- Evaluated Demucs architecture for waveform music source separation on multi-genre datasets.
- Tested model robustness by adding Gaussian white noise to assess impact on separation quality; Demonstrated Demucs outperformed spectrogram models in noisy conditions.
- Achieved overall SDR of 6.35 with Demucs on unseen data, increased to 7.29 after fine-tuning; Demonstrated strong generalization ability to new genres with additional training.

Traffic Capture Application Bath, UK
University of Bath Dec 2022 - Jan 2023

- Designed and implemented traffic capture web application with Python server and SQLite database backend.
- Built full ETL pipeline enabling data ingestion, processing, and storage in database.
- Developed interactive visualizations and analytics to provide traffic insights through API endpoints and CSV exports.

Publication

- Smart Classroom Setup Using Microcontrollers and Multiple Sensors T. M. Thamizh Thentral, Sourav Panda, Vignesh Balaraman, R. Vignesh, T. R. B Ramanathan, A. Geetha (TEST magazine May/June 2020).