



Ranjana Gautam

MANAGER (DATA SCIENCE)

Profile

Experienced Data Science professional having 11+ year banking career including 02 years as Data scientist. During 2-year as data scientist, I honed my skills in Python programming language, Machine Learning, Deep Learning, Natural Language Processing, SQL, NLP, Time series, Computer vision and Power Bi. Looking to combine my financial expertise with these cutting-edge skills to solve complex business problems and contribute to the forefront of data-driven solutions.

Employment History

Bank Branch Manager- Indian Overseas Bank (A Nationalized bank)

MAY 2020-TILL NOW

Assistant Manager- Indian Overseas Bank (A Nationalized bank)

MAY 2013-APRIL 2020

Education:

Data Science Bootcamp course from OdinSchool based at Hyderabad, Telangana

DECEMBER 2022 — DECEMBER 2023

Did projects and Certified in Machine learning, Deep Learning, Computer vision, Statistics, NLP, Time series etc.

Post Graduation in English Literature, Mahatma Gandhi Kashi Vidyapeeth, Varanasi, Varanasi

JUNE 2013 — JULY 2015

Graduation in Economics, English from Veer Bahadur Singh Purvanchal University, UTTAR PRADESH

JUNE 2008 — JULY 2011

'O' level in Computer programming, National Institute of Electronics and Information Technology, Varanasi

JANUARY 2010 — JANUARY 2011

Specialization in -:

- IT Tools and Applications
- Business Systems
- Internet and Web Designing
- Programming and Problem Solving

Data Science Internships :

1) Data Scientist internship (CloudyML, Head office at West Bengal)

NOVEMBER 2023 — FEBRUARY 2024

Details

Lucknow, India

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Links

[LinkedIn](#)

[HackerRank](#)

[Github](#)

Skills

Prompt Engineering

Fast Learner

Python

Leadership

Communication Skills

NLP

SQL

Machine Learning

Python

ChatGPT-4 Expertise

Computer vision

Deep Learning

CNN

Data Visualization

Statistics

Internship include overall 05 project based on NLP, GAN, Computer vision and ASR.

2) Data Analytics Consulting (KPMG, Mumbai)

NOVEMBER 2022 — DECEMBER 2022

Attained practical experience in Data Quality Assessment, Data Insights.

3) Web Scrapping-Data Science Project (British Airways, Mumbai)

OCTOBER 2022 — DECEMBER 2022

Attained practical experience in Web scraping to gain company insights

4) Data Visualisation: Empowering Business with Insights program (TATA, Mumbai)

NOVEMBER 2022 — DECEMBER 2022

Gained practical experience in Framing the Business Scenario, Choosing the Right Visuals

5) Cybersecurity (Mastercard, Mumbai)

DECEMBER 2022 — DECEMBER 2022

Over the period of December 2022, I have completed practical tasks in Designing a phishing email simulation and Interpreting phishing simulation results

6) Data Science Project (Standard Bank, Mumbai)

DECEMBER 2022 — DECEMBER 2022

Skills and basics attained through project are SQL , Python, Preparing to Present, Putting It All Together

7) Artificial Intelligence Basic Project (Cognizant, Mumbai)

SEPTEMBER 2022 — DECEMBER 2022

Over the period of December 2022, I have completed practical tasks in Exploratory Data Analysis, Model Building and Interpretation.

8) Data Analytics and Visualization (Accenture, Mumbai)

NOVEMBER 2022 — DECEMBER 2023

Utilized data analytics to identify trends and patterns in engineering data and provide insights to stakeholders

Professional and internship Projects:-

1. [Artistic Image Stylization with Generative Adversarial Networks \(GANs\)](#): Leveraged GANs to create artistic image stylizations, successfully capturing the distinctive artistic patterns and textures of Claude Monet. **This project explored the capabilities of GANs for generating creative content, which could be beneficial for the company's marketing or design departments in creating unique and engaging visuals.**
 - Constructed neural network architectures for both image generation (applying artistic style) and discrimination (differentiating real paintings from generated ones).

Power BI

Hobbies

- Traveling to new places
- Gym and Workouts
- Trading in Stocks & Options

Languages

English

Hindi

License & Certifications:

- Prompt Engineer certified by B10X.
- Python certified by HackerRank
- Machine Learning certified by CloudyML.
- Deep Learning certified by CloudyML
- Maths & Statistics certified by CloudyML
- SQL certified by HackerRank.
- Data Visualization: Empowering Business with Effective Insights Certified By TATA.
- Cognizant certified Artificial Intelligence Virtual Experience Program.
- Accenture certified Data Analytics and Visualization program.
- KPMG certified Data Analytics Consulting program.

- Employed various loss functions during training: generator loss, cycle consistency loss, identity loss, and discriminator loss to optimize the model's performance.
- Trained the model to achieve photo-to-painting style transfer while maintaining the original image content through cycle consistency.
- Addressed challenges like **content preservation and maintaining artistic fidelity to achieve realistic and visually appealing results, ensuring high-quality image generation.**

2. Innovative YouTube Video Summarization Tool with Hugging Face

ASR:

- Pioneered a novel video summarization tool utilizing Hugging Face ASR technology. **This tool extracts key audio segments from YouTube videos and generates concise summaries, tackling challenges like diverse speech patterns and background noise.**
- Leveraged **Hugging Face's wav2vec2-large-xlsr-53-english** model for speech recognition, transcribing audio into text.
- Implemented **audio chunking using librosa** to address potential out-of-memory errors during processing.
- **Utilized transformers library's summarization pipeline** to condense lengthy transcripts into concise summaries.
- Incorporated text chunking for efficient summarization of large volumes of transcribed text.

3. Conversational Chatbot using a novel Bahdanau attention

mechanism:

- Designed and implemented a user-friendly chatbot that leverages powerful NLP techniques. **This chatbot integrates a deep learning language model to understand user queries and generate contextually relevant responses.**
- This **high-performing sequence-to-sequence chatbot uses TensorFlow and Keras, enabling contextually relevant responses.**
- Incorporated a **novel Bahdanau attention mechanism to strategically focus on critical elements within the input sequence during response generation, enhancing conversational coherence.**
- Implemented **robust text data preprocessing techniques, including cleaning, tokenization, and padding, to prepare data for efficient model training.**
- Achieved **text summarization capabilities through a meticulously designed GRU (Gated Recurrent Unit) encoder-decoder architecture.**
- Ensured **user satisfaction by gracefully handling out-of-vocabulary words, informing the user and continuing the conversation for a seamless user experience.**

4. Real-Time Driver Drowsiness Detection System:

- Engineered a robust computer vision system for real-time driver drowsiness detection with high accuracy, even in varying lighting conditions. **This system utilizes facial landmark and eye movement analysis with convolutional neural networks to assess driver alertness, minimizing false positives.**
- Optimized for resource-constrained environments like vehicles and mobile devices, **this system has the potential to significantly improve road safety by promoting driver alertness.**
- Implemented real-time drowsiness detection algorithms with efficient inference **for on-device deployment, enabling immediate feedback for drivers.**

Accomplishments:

- Recognized by management for technical projects delivering outstanding Results.
- Advanced from Banking to IT sector quickly as result of quick learning and adaptation quality.
- Created and developed critical compliance policies to consistently exceed quality and production targets.
- Achieved JAIIB certification from Indian Institute of Banking and Finance.

Achievements:

- HackerRank 5 Star Badge in Python and 3 Star in Problem Solving.
- Secured First Price in Hindi Language Competition. Active member in various competition in Organization.
- Appreciation letter for achieving Banking and insurance Targets.
- Appreciation letters for obtaining 90/100 in Annual Employee work Observation.
- Secured Second position in Lucknow Region in PMJDY, PMSBY, PMAVY Campaigns.

References:

- Conducted extensive testing on simulated and real-world datasets **to ensure the system's reliability in various driving scenarios.**

5. Personalized Music Recommendation System:

- Developed a high-performing music recommender system using machine learning on a massive Spotify dataset. **This system analyzes user preferences, music genres, and listening habits to generate highly personalized recommendations, resulting in 89% boost in user engagement.**
- Unveiled music trends **through meticulous data exploration with pandas and NumPy, empowering targeted recommendations and content discovery.**
- Implemented K-Means clustering **to effectively group songs and genres based on audio features, laying the groundwork for personalized listening journeys and increased user satisfaction.**
- Championed efficient data visualization with t-SNE and PCA, **enabling clear comprehension of song relationships, fostering content exploration, and informing strategic music library acquisitions.**
- Integrated cosine similarity **to deliver accurate song recommendations by calculating song similarity based on features, promoting user retention and boosting platform value.**
- Developed a user-friendly interface **using ipywidgets, streamlining song input and recommendation display, enhancing user experience, and driving platform adoption.**

6. Fraud Detection Model :

- Built a machine learning model that predicts fraudulent transactions using internal data, resulting in reduction in financial losses for the bank. **This model utilizes anomaly detection techniques to identify suspicious transaction patterns.**
- Continuously monitored and updated the model **to maintain its effectiveness against evolving fraud schemes, ensuring ongoing protection against financial threats.**
- Employed data visualization techniques **to analyze model performance and identify potential weaknesses, allowing for targeted improvements and further loss prevention.**

7. Credit Card Approval Predictive Model:

- Developed a highly accurate machine learning model for predicting credit card approval, **achieving 91% accuracy.**
- Identified key factors influencing **creditworthiness, enabling banks to make more informed decisions.**
- Streamlined the credit card application process, leading to improved operational efficiency and reduced costs.
- Mitigated financial risks by **identifying potential high-risk applicants.**

Some Other projects are Financial news sentiment analysis, Sales Increase, Loan eligibility prediction. Predicting customer buying behavior.

I use to follow below techniques to build each Model/Project:-

- Data Quality Assessment
- Exploratory Data Analysis
- Data modelling

Adarsh Kumar from Tekion Corp

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- Using Machine Learning Algorithms
- Model Building and Interpretation
- Web scraping to gain company insights
- Data Insights and Presentation