

# Prabal Kumar Deka

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## SUMMARY

Entry-level Data Scientist with proven experience in Machine Learning, Deep Learning, and Natural Language Processing (NLP). Expertise in Python, SQL, feature engineering, predictive modelling and model evaluation with strong problem-solving abilities and experience in delivering data-driven insights for real-world applications.

## PROFESSIONAL EXPERIENCE

### Data & Research Analyst – Turing

Sept 2024 - Aug 2025

- Directed large-scale data annotation projects, implementing quality controls that ensured 90% accuracy across 50K+ data points.
- Optimized and fine-tuned LLMs, boosting mathematical reasoning accuracy by 95% and cutting inference time by 40%.

### Computer Science Faculty – Potential & Concept Educations LLP

Mar 2023 - Sept 2024

- Designed and delivered comprehensive programming curricula for 100+ students in Class 11 & 12, covering Python fundamentals and database management (SQL queries, joins, views, CTEs).
- Conducted hands-on workshops on data manipulation and analysis using Python libraries, resulting in 90% student pass rate in board examinations.

## PROJECTS

### Cars 24x7: Car Damage Detection ([Link](#))

- Built and compared **CNN**, **EfficientNetB0**, and **ResNet50** models to classify car damages into 6 categories.
- Optimized **ResNet50** using **Optuna** for **hyperparameter tuning**, achieving **79% accuracy** on test.
- Developed a **Streamlit web app** for real-time image-based damage detection.

### LinkedIn Post Generator – Generative AI Project ([Link](#))

- Developed an end-to-end Generative AI application using **LangChain** framework and **Llama-3.3** model for automated content generation.
- Implemented prompt engineering techniques and fine-tuning strategies to improve content relevance by 85%.
- Built interactive web interface using **Streamlit** with real-time content generation capabilities.

### Credit Risk Modelling – Prudent Partners ([Link](#))

- Developed machine learning models (**Logistic Regression**, **Random Forest**, **XGBoost**) to assess credit default risk for loan applications.
- Utilized feature engineering techniques and handled class imbalance using **SMOTE** and ensemble.
- Implemented hyperparameter optimization using **Optuna**, improving model **AUC** score to **0.89**.

## TECHNICAL SKILLS

- Programming Languages:** Python, C, C++
- Databases:** MySQL
- Frameworks:** Scikit-learn, PyTorch, spaCy, FastAPI
- Tools & Technologies:** Power BI, Git, Jupyter Notebook, PyCharm, Google Colab, AWS, Azure
- Core Competencies:** Machine Learning, Statistical Analysis, Hypothesis Testing, A/B Testing, EDA, Deep Learning, Natural Language Processing, LangChain, Generative AI (LLMs, Prompt Engineering, Fine-tuning, RAG), Business Intelligence (Advanced Excel – Pivot Tables, Power Pivot, VLOOKUP), Database Design, Database management, troubleshooting and debugging, Problem solving.

## EDUCATION

- Central Institute of Technology, Kokrajhar, Assam**  
B. Tech in Computer Science & Engineering.

June 2018 - June 2022