Binit Kumar Jha

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Education

BITS Pilani	Expected May 2025
M.Tech in Artificial Intelligence and Machine Learning	*Pilani, India*
Sir M. Visvesvaraya Institute of Technology	May 2021
B.E in Electronics and Communication (CGPA: 7.82 / 10)	*Bangalore, India*

Experience

Cognizant Technology Solutions	Aug 2021 – Present
Associate	*Bengaluru, India*

- Designed and implemented a comprehensive GCP infrastructure using Terraform, orchestrating over 50+ source systems through various ETL processes.
- Managed the data pipeline from staging to Level 1 (L1) and Level 2 (L2) storage using Cloud Composer, applying microservices architecture principles to enhance scalability and maintainability.
- Led a team through the project lifecycle, ensuring end-to-end sanity checks and successfully handing over the project to clients with comprehensive documentation and training for a smooth operational transition.
- Developed automated ETL pipelines leveraging GCP services, Terraform, and BigQuery for scalable data processing, implementing CI/CD pipelines and shell scripts to streamline deployment processes.
- Achieved a reduction in manual efforts by 30-40 % through automation, utilizing Python scripts to ensure seamless integration and execution, resulting in smoother and more reliable data workflows.
- Integrated data from Kafka streams into the ARM architecture by loading Kafka stream files into Cloud Storage and ingesting them into BigQuery, while leveraging Pandas for efficient data manipulation and DataFrame management in Python.
- Enabled timely insights for decision-making through real-time data processing and analysis, developing solutions that enhanced data accessibility and usability for stakeholders.

Freelance E-commerce Website Project	Aug 2021 – Nov 2021
Web Development	*Remote*

- Designed and developed a comprehensive e-commerce platform featuring a responsive frontend in React, enabling users to create accounts, browse products, and securely complete transactions.
- Implemented an intuitive admin dashboard for efficient management of products, order tracking, and user account oversight, enhancing operational efficiency and inventory management.
- Integrated secure payment processing and user authentication to ensure a safe shopping experience, leveraging best practices in web development and security protocols.

The Sparks Foundation	May 2020 – Jul 2020
Data Analyst	*Remote*

- Developed a predictive model to forecast sales for a retail store using historical sales data.
- Performed data cleaning and preprocessing to handle missing values and outliers.
- Utilized regression techniques and time series analysis to predict future sales trends.
- Presented findings and recommendations through interactive visualizations and reports.

Projects

Predictive Maintenance for Industrial Machinery | *Python, scikit-learn, Pandas, NumPy*
- RNNs/LSTMs: Utilize Recurrent Neural Networks (RNNs) and Long Short-Term Memory (LSTM) networks for analyzing and predicting time-series data related to machinery performance.
- Design an RNN or LSTM model tailored to predict failures based on historical sensor data.
- NASA's Turbofan Engine Degradation Dataset.

Deep Reinforcement Learning for Autonomous Spaceship Navigation | *CNN, TensorFlow, OpenAI Gym*
- Developed a DQN with CNNs for navigating a spaceship through an asteroid field..
- Implemented and tested in OpenAI Gym, focusing on survival and collision avoidance.
- Demonstrated expertise in deep reinforcement learning and real-time decision-making.

Text Summarization and Translation System | *T5, GPT-2, BERT, Transformers library*
- Implemented T5 for text summarization and GPT-2 as a placeholder for translation.
- Developed a real-time processing function for summarization and translation tasks.
- Utilized BERT for masked language modeling.

Customer Churn Prediction Model | *Scikit-learn, AWS SageMaker, Lambda, S3*
- Built a machine learning model to predict customer churn using Scikit-learn, optimizing performance through cross-validation and hyperparameter tuning.
- Deployed the model to AWS SageMaker for scalable real-time predictions, integrating with AWS Lambda to provide an API for inference.
- Utilized AWS S3 for data storage and model artifacts, ensuring seamless data flow between services.

Technical Skills

Languages: Python, SQL, Java, Linux
Technologies: TensorFlow, PyTorch, scikit-learn, Pandas, NumPy, MySQL, MongoDB, Docker, Git/GitHub
Concepts: Machine Learning, Deep Learning, Reinforcement Learning, Data Analysis, DevOps, Data Visualization, Feature Engineering, Model Evaluation, Hyperparameter Tuning ,Natural Language Processing
Cloud Platforms: Google Cloud Platform(GCP), Amazon Web Services(AWS)

Social Engagements

Volunteer: Akshay Patra Foundation
Technical Coordinator: Lead of all events in Tech fest and member of Sponsorship Team for Kalanjali 2019
Blog: Technical Blog
Sports: Intra College Chess Champion