BINCY NARATH

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PROFESSIONAL SUMMARY

Innovative and results-oriented **Applied Scientist** and **Machine Learning Engineer** with 5 years of experience in designing, developing, and deploying **scalable ML/DL solutions** across diverse domains including **Recommender Systems, Graph Neural Networks, NLP,** and **Generative AI**. Adept at bridging the gap between **research** and **production**, with a strong track record of providing **technical solutions** to cross-functional teams. Seeking to leverage my expertise in a **high-impact role** at a leading tech company.

TECHNICAL EXPERTISE

- **Machine Learning & Deep Learning**: Supervised Learning**,** Unsupervised Learning**,** Deep Learning**,** Reinforcement Learning**,** Graph Neural Networks**,** Natural Language Processing (NLP)**,** Generative AI (Prompting, Fine-tuning, LLMs with RAG)**,** Statistics**,** A/B Testing.
- **ML Frameworks & Libraries**: Python **–** PyTorch**,** TensorFlow**,** Keras**,** Scikit-learn**,** PyG**,** NumPy**,** Pandas**,** statsmodels.
- **Cloud Platforms**: GCP(VertexAI, BigQuery**,** BigTable**,** DataFlow**,** Google App Engine(GKE), GCS), Experience with Azure and AWS.
- **Distributed Data Processing:** Apache Beam**,** PySpark.
- **Data Visualization**: Matplotlib**,** Seaborn**,** Plotly**,** Tableau**,** Power BI**,** D3.js**,** PyViz**,** NetworkX.
- **Generative AI**: Expertise in open-source frameworks such as LangChain and HuggingFace, as well as non-open-source models from major industry leaders.
- **Application Development**: Flask**,** HTML**,** CSS**,** Bootstrap**,** JavaScript**,** APIs**,** Web Scraping.
- **Database Query Languages**: PostgreSQL**,** MySQL**,** BigQuery**,** MongoDB.

RELEVANT EXPERIENCE

Senior Data Scientist

Achievers IT | Toronto, Canada | January 2022 – Present

- **Designed and implemented a scalable newsfeed model**, utilized by 300+ customers, **increased the engagement of 70% of clients**, including those with limited historical data. Developed and maintained a robust **MLOps framework** to ensure continuous improvement of the pipeline.
- Developed a **turnover prediction model** leveraging **heterogeneous graph neural networks**, achieving **17% precision** and **70% recall**—noteworthy given the problem's complexity and limited data availability.
- **Designed and launched an Inclusion Coach**, a first-gen AI product in the organization that detects, corrects, and explains workplace bias in recognition text, significantly enhancing the platform's value proposition with a **92% bias detection accuracy**.

Data Scientist

Lixar I.T (now part of BDO) | Ottawa, Canada | Nov 2020 – Jan 2022

- **Developed a dynamic and adaptive learning recommendation engine** that personalizes lesson suggestions based on students' historical performance and psychometric data, optimizing student learning.
- **Clustered students using psychometric data,** applied SHAP to interpret the clusters and **correlated with course performance to enhance student admission strategies**.

- **Created a framework for profiling and clustering vehicles** based on their mission data. This involved **converting usage metrics into distributions** and **clustering vehicles by matching these distributions and mission length**, resulting in **better mission preparation**.
- **Designed a duplicate payment detection system** using a **fuzzy-match scoring mechanism** and **PySpark** to calculate transaction similarity scores. **Notified the client** when scores exceeded a threshold, aiding in transaction recovery.

Data Scientist

Cisco Systems Pvt. Ltd. | Bangalore, India | Jan 2019 – Feb 2020

- **Developed an anomaly detection framework for network devices** that identified deviations in resource metrics such as CPU usage and memory utilization from predicted values. Utilized a predictive model leveraging historical data and measurements from other network resources to forecast expected values.
- **Developed an escalation forecasting model** that predicts the likelihood of a support issue escalating **based on text** from multiple sections of the support case. Achieved **80% accuracy, aiding the technical support team in prioritizing cases effectively**.
- **Created a discount identifier model for the sales team** that recommends appropriate discount bands for device sales. **Achieved 70% accuracy** and **eliminated the need for SME intervention in the primary decision-making process**.

EDUCATION

Master of Science in Communication Engineering - IIT Madras, India, *2010-2013*
Bachelor's in Electronics & Communication Engineering: Kannur University, India, *2005-2009*

AWARDS

- **Winner, Judges Choice award, Hackathon 2024** - *Issued by Achievers I.T, April 2024*
  Product: AI Shopping Assistant Chatbot built using LLM, RAG, and Agents
- **Winner, Spirit of Hackathon award**, **Hackathon 2023** - *Issued by Achievers I.T., January 2023*
  Product: Engine for recommending the right person on a recognition platform based on the searched keyword expertise using NLP and sentence transformers.
- **Area Level winner, Impromptu Speech** - *Toastmasters International 2018*

CERTIFICATES

- **Google Cloud Certified Professional Machine Learning Engineer** - *Jan 2023*
- **AZ-900: Microsoft Azure** - *Nov 2020*
- **Data Analytics Bootcamp: University of Toronto (6 months)** - *Nov 2020*
- **Deep Learning Specialisation: Deeplearning.ai** - *May 2020*
- **Reinforcement Learning Certification: IISC Bangalore, India (6 months)** - *Dec 2019*
- **Diploma in Data Science: IIM Bangalore (1 year)** - *Dec 2019*

PATENTS

- **System and method for predicting performance by clustering psychometric data using artificial intelligence (WO/2023/065037)** - *Issued: April 27, 2023.*
  Description: A system for predicting student performance based on psychometric data, using AI to cluster psychological traits and correlate them with performance data.
- **User Plane Function (UPF) selection based on predicted load information (US-11412412-B2)** - *Issued: August 9, 2022.*
  Description: AI-based methodology for allocating UE data connections in 5G networks, considering forecasted network load and predicted bandwidth requirements, leveraging historical billing records (CDR) for usage deduction.