Dhruv Bhutani

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Education

The University Of Waterloo   Expected May 2025
Bachelor of Science in Computer Science   *Waterloo, ON*
- **Relevant Coursework:** Machine Learning, Computational Vision, Database Management & Statistics in CS

Technical Skills

Languages: Python, SQL, Kotlin, JavaScript, HTML5, CSS3   **ML & AI**: PyTorch, TensorFlow, XGBoost, Hugging Face
Databases & Cloud: MySQL, AWS (S3, SageMaker, DynamoDB), Databricks   **Tools**: Git, Docker, Selenium, FastAPI, Flask

Experience

XE.com   Sept 2024 – Dec 2024
Machine Learning Engineer Intern
- **Engineered a scalable, parallel geospatial pipeline** using AWS Lambda and Pandas to process distance features across **1M+ global locations**, cutting feature engineering time by 40%.
- **Trained and optimized XGBoost models for fraud detection** on 200K+ transactions; applied feature selection and Bayesian hyperparameter tuning to boost AUC by **15%**.

Mistplay   May 2024 – Aug 2024
Machine Learning Engineer Intern
- **Built a personalized recommendation engine** combining Matrix Factorization with Hugging Face Transformer-based models, driving an estimated **10% increase in user revenue**.
- **Deployed scalable ML-driven pricing strategies** on Databricks using PySpark and SQL to automate pricing across millions of in-app transactions.
- **Created 30+ interactive dashboards and visualizations** with Plotly and Matplotlib, uncovering user behavior trends that led to **two new product features**.

XE.com   Sept 2023 – Dec 2023
Applied ML Intern — Fraud Detection
- **Designed hybrid ML pipelines** using PyTorch, XGBoost, and AdaBoost for fraud prediction, improving detection for cross-border transactions by **8%**.
- **Executed data integrity analysis** on **375K+ transaction records**, correcting systemic discrepancies to improve downstream analytics.
- **Built end-to-end ML infrastructure** using AWS SageMaker, S3, and DynamoDB, reducing inference latency and data preprocessing time by **30%**.

Teranet Inc.   Jan 2023 – Apr 2023
ML Engineer Intern — Real Estate Analytics
- **Trained ensemble models (Random Forest, XGBoost)** to predict property values with **87% accuracy**, outperforming internal benchmarks by 5%.
- **Streamlined data preprocessing workflows** using Scikit-learn and Pandas, reducing ETL times by **25%** while maintaining high data quality.

BCN Labs, Bain & Company   May 2022 – Aug 2022
AI Research Intern — Forecasting Systems
- **Developed a no-code forecasting platform** using TensorFlow and Streamlit, enabling non-technical teams to build and deploy time series models.
- **Evaluated multiple deep learning architectures** (ANNs, CNN-LSTMs, Transformers) for business forecasting, achieving up to **95% accuracy** on structured datasets.

Projects

MediSync: AI-Powered Clinical Research Assistant Agents | *Python, LangChain, Hugging Face Transformers, Pinecone, Streamlit*
- Implemented a **chain-of-agents system** for clinicians to automate literature synthesis, note drafting, and clinical trial matching.
- Used **LLMs + Pinecone vector DB** to retrieve context-specific medical evidence, ensuring accurate and traceable AI-generated outputs.
- Reduced research and documentation time by over **50%** in simulated workflows with realistic patient case inputs.