

Vibhu Bhatia

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EDUCATION

Boston University

Master of Science in Computer Science

Boston, MA

Sep 2019 – May 2021

Netaji Subhas University of Technology

Bachelors of Technology in Biotechnology

Delhi, India

Sep 2015 – May 2019

SKILLS

Languages: Python, C++, SQL, JavaScript, Matlab, Golang

Libraries: PyTorch, PySpark, TensorFlow, JAX, pandas, NumPy, Matplotlib, XGBoost, scikit-learn

Frameworks: Node.js, Flask, CDK, Terraform, React-Native, Laravel

ML/AI Tools: MLflow, Feast, OpenAI API, Anthropic Claude, Gemini, Hugging Face, LangChain

Technologies: AWS, Git, Docker, Kubernetes, Datadog, Temporal, WebSocket, RESTful API, Snowflake

EXPERIENCE

Butter Payments

July 2021 – July 2025

Machine Learning Engineer

- As the **first ML hire**, established foundational ML infrastructure and team processes, collaborating with cross-functional stakeholders and engineers to scale the ML engineering function across the organization
- Led design and launch of enterprise ML cloud platform serving as intelligent middleware between ML models and payment providers (Stripe, Braintree), architecting complete **MLOps infrastructure** with **Feast feature store**, automated CI/CD deployment pipeline, and comprehensive monitoring suite in **Datadog/Snowflake**
- Pioneered **GenAI solutions** including structured prompting system enabling **no-code experiment generation** through natural language descriptions, and **tool-calling framework** for automated model metadata querying
- Engineered and deployed production ML models: **Bayesian retry prediction model (40% performance boost)**, **XGBoost invoice recovery model (10% improvement)**, and **transformer-based time series forecasting** for optimal payment timing
- Built enterprise-grade **A/B testing framework** with decision-tree flexibility, developed **20 heuristic algorithms** generating **1M+ diverse training samples**, and created automated deployment pipeline that saved significant developer hours through **CLI tooling and AWS CDK integration**

LLama lab, Boston University

Jan 2021 – June 2021

Project Lead Developer

Boston, MA

- First author** and led a team of 2 developers on design iterations and development of **OpenFraming**, an AI based tool for extracting relevant framing (or view points) out of multilingual News articles (**EMNLP 2021, 36 citations**)
- Evaluated and finetuned **distilBERT-multilingual** on News articles corpus, created REST API backend deployed on EC2, and built D3.js frontend to visualize, filter and animate results for demo presentations

Optimal Lab, Boston University

June 2020 – Jan 2021

Graduate Research Assistant

Boston, MA

- Developed comprehensive library of **10 1-D convex functions** and **12 PyTorch optimizers** with unit testing, implementing **multi-threading optimization** that reduced runtime from **30 hours to 2 hours (15x speedup)**
- Automated end-to-end pipeline for results collection, baseline comparison, and performance visualization across optimization algorithms

PROJECTS

Nekomate | Gesture-powered home companion

- Developed a custom hand gesture classifier on top of MediaPipe, in a two-step fine-tuning process with a tiny dataset and achieving 90% accuracy. Quantized the model for Raspberry Pi and connected an LED panel, creating a gesture based UX for smart home automation

ParaCov | Simulating Covid-19 using parallel programming

- A **simulation of Covid-19 spread and control** using testing in Boston University using **object oriented design** and **multithreading with openMP in C++** running 10k nodes in parallel and plotting infection rates and death rates in real time.