

Vibhor Sharma

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Education

University of Waterloo

Sept 2025 – Apr 2030 (Expected)

BASc in Engineering: Management Engineering, Specialization in AI/ML, PEO Scholarship

Skills

Languages: Python, SQL, JavaScript, TypeScript, Dart, C#, HTML, CSS

Frameworks: PyTorch, Scikit-learn, NumPy, Pandas, React, Flask, FastAPI, Node.js, Flutter, SQLAlchemy, MySQL, PostgreSQL, MongoDB, Redis

Tools: Git, Docker, Supabase, Firebase, Jupyter Notebooks, Google Colab, Claude Code CLI, Figma

Certifications: Harvard CS50 Python, DeepLearning.AI: Supervised Machine Learning, SQL for Data Science

Experience

Software Engineer – Questify

Apr 2025 – Nov 2025

Python, FastAPI, Firebase, WebSockets, LLMs, Transformer Models

- Led development of **Teacher Assistant** feature using LLMs, enabling auto-generated quizzes from uploaded content — cutting teacher prep time by **50%**.
- Designed and implemented **content generation engine** using Gemini embeddings for semantic lesson matching, increasing student engagement by personalizing lesson sequences.
- Conducted **market research** across Ontario's 70+ school boards; shaped **product roadmap** and feature prioritization based on K-12 engagement gaps.

Co-Founder and Technical Lead – PURLUX

Jun 2025 – Oct 2025

Flutter/Dart, Supabase (PostgreSQL), Python, FastAPI, Gemini

- Delivered a cross-platform app projected to onboard **1,500+ users** by architecting a **Flutter frontend** integrated with a **Supabase/PostgreSQL backend**.
- Increased booking conversion rate by **25%** by implementing **recommendation system** using Gemini, analyzing user preferences for **personalized service suggestions**.
- Secured **100K pre-seed funding** after developing a MVP level app at SPURHACKS (**2nd Best AI-based App Winner**) and pitching at multiple accelerators.

Projects

AskMyData | *Python, Flask, ChromaDB, Ollama, Pandas, NumPy, TypeScript, Next.js, PowerBI*

- Built **RAG-powered** data query system with *ChromaDB* vector store and *Llama 3.2*, enabling natural language queries over documents (CSV, JSON, PDF) with sub-second retrieval across **50+ page documents**.
- Improved RAG accuracy by creating an **evaluation framework** (*precision@K, model selection*); optimized chunking and boosted semantic similarity by **21%** with **400ms latency reduction**.
- Combined ETL pipeline and Power BI dashboard, tracking 5 core KPIs(query relevance, latency, throughput) across 7 trials.

MonkeyType Wrapped | *Next.JS, TypeScript, FastAPI, Pandas, NumPy, Scikit-learn, Matplotlib* [Live Demo](#)

- Built a **data processing pipeline** using *Pandas* and *NumPy* to parse, validate, and transform raw CSV typing data into time-series based statistical insights like streak detection and error attribution
- Implemented **K-means clustering** on a 3D feature space (*WPM, accuracy, consistency*) with StandardScaler normalization to classify users into **4 distinct typing personas** with *Scikit-learn*.

VibeML | *Node.JS, Python, Scikit learn, Redis, Celery, Typescript, HTML*

HackTheSix 2025

- Engineered an end-to-end **AutoML platform** enabling non-technical users to train ML models from CSV data, with automated algorithm selection across **7+ scikit-learn models** and hyperparameter tuning via **GridSearchCV**.
- Architected distributed backend with **FastAPI + Celery/Redis** handling parallel training jobs, 20+ API endpoints, and real-time progress tracking without UI blocking.

Research and Interests

- **Research:** Wrote **10+ technical writeups** on ML topics including intuition behind supervised learning, transformer architectures, and Neural Networks deep-dive. [\(View Journal\)](#)

- **Interests:** Poker, Ultimate Frisbee, Space Exploration (Rovers + Telescopes), Basketball (Golden State Warriors), Hiking