

# Keerthana Belthur Parthasarathy

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## SUMMARY

Early-career Machine Learning Engineer with hands-on experience building **LLM-based systems, scalable backend services, and production-ready ML pipelines**. Strong foundation in **Python, FastAPI, PyTorch, and containerized deployments**, with experience optimizing latency, designing RAG architectures, and implementing automated validation workflows. Passionate about building reliable AI agents that bridge advanced models with real-world user applications.

## EDUCATION

- |   |                            |
|---|----------------------------|
| • <b>Syracuse University, Syracuse, NY</b>  | <b>Aug 2024 – May 2026</b> |
| M.S. in Computer Science  | <b>CGPA: 3.85</b>          |
| <i>Relevant Coursework:</i> Applied Algorithms, Advanced Programming, DBMS, Network Security and Information Protocol, Cyber Security, Computer Architecture, Artificial Intelligence, Machine Learning |                            |
| • <b>Visvesvaraya Technological University, Bangalore, India</b>  | <b>Aug 2019 – May 2023</b> |
| B.Tech. in Information Science  | <b>CGPA: 3.4</b>           |
| <i>Relevant Coursework:</i> Data Structures and Algorithms, Web Development, Machine Learning, Cloud Computing, Networking  |                            |

## EXPERIENCE

### Ursamin, Inc.

**February 2026 – Present**

*Data Analyst Intern*

- Defined and executed a delivery plan to stand up a **net-new, isolated Azure Production environment**.
- Provisioned cloud infrastructure using **Infrastructure-as-Code (IaC)** to ensure repeatable, consistent deployments.
- Built **CI/CD pipelines** with gated promotion from **QA to Production**, including validation and rollback controls.
- Implemented production basics: **secrets management, monitoring, logging**, and operational runbooks.

### Deloitte Toucheé Tohmatsu Limited

**July 2023 – August 2024**

*Software Engineer – Data/ETL (Supply Chain and Network Operations)*

- Built scalable **Python + SQL ETL pipelines** on multi-million-row datasets, improving forecast accuracy by **30%**.
- Automated manual reporting workflows, reducing operational effort by **40%** and enabling near real-time insights.
- Developed executive dashboards using **SQL and Python** for fast ad-hoc analysis and KPI tracking.
- Added structured **logging and alerting**, reducing data pipeline downtime by **25%**.

### ABB Pvt Ltd

**February 2023 – May 2023**

*Software Engineer Intern*

- Enhanced the *Energy Manager* platform using **TypeScript, JavaScript, and REST APIs**, reducing latency by **20%**.
- Automated regression testing with **Selenium**, cutting QA cycles by **25%**.
- Built real-time dashboards to visualize system health and performance metrics.
- Improved delivery reliability through **Git-based CI/CD** and structured testing practices.

## PROJECTS

### PDF Retrieval-Augmented Generation (RAG) System

- Designed and implemented a scalable **LLM pipeline** using dense retrieval and transformer-based models (PyTorch).
- Built RESTful AI-serving endpoints using **FastAPI** for low-latency inference.
- Optimized cosine similarity retrieval and batching to improve throughput.
- Developed structured evaluation metrics to test reliability and reduce hallucination risk.

### Triage+ PRO – ML-Based Risk Prediction System

- Built predictive ML models using structured healthcare-style datasets.
- Implemented feature engineering, model training, and validation workflows.
- Applied SHAP-based interpretability to evaluate model decision behavior.
- Structured automated testing pipelines to ensure model consistency and performance.

### ADHD & Dyslexia-Friendly Book Converter

- Developed a full-stack AI-powered application using **React, Node.js, and Python FastAPI**.
- Designed scalable document ingestion and text extraction workflows using PyMuPDF.
- Built API-driven architecture integrating frontend UI with backend processing services.
- Deployed modular components suitable for containerized environments.

## SKILLS

**Programming Languages:** Java, Python, TypeScript, JavaScript, SQL

**Frameworks:** FastAPI, Flask, React, Node.js

**ML Frameworks:** PyTorch, LightGBM

**AI Systems:** Retrieval-Augmented Generation (RAG), LLM APIs, Prompt Engineering

**Infrastructure:** Docker, Git, CI/CD Pipelines

**Databases:** PostgreSQL, NoSQL Concepts

**Concepts:** Latency Optimization, Model Monitoring, Data Pipelines, Distributed Systems Fundamentals