

# Pranav Goyanka

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## Skills

**Programming Languages:** Go, TypeScript, JavaScript, C++, Python, Java, SQL, HTML/CSS

**Frameworks:** PyTorch, TensorFlow, Docker, Node.js, Socket.IO, WebSocket, OpenTelemetry

**Tools and Libraries:** PyTorch, TensorFlow, Docker, Node.js, Socket.IO, WebSocket, OpenTelemetry

## Experience

**Teaching Assistant and Course Designer**, Boston University – Boston, MA Jan 2024 – Present

- Implemented the OmniPaxos consensus protocol and wrote extensive unit tests in Go
- Designed assignments, grading infrastructure, and coursework for writing formal specifications using TLA+.
- Assisted Prof. John Liagouris in conducting weekly lab sessions and office hours.

**Software Development Engineer**, Mobile Premier League – Bangalore, India Oct 2022 – Jul 2023

- Engineered backend systems and centralized libraries for Node.js microservice based server-authoritative games.
- Optimized infrastructure utilization and monitoring via centralized libraries and OpenTelemetry integration, resulting in a 40% reduction in infrastructure costs.
- Expanded matchmaking systems with cross country support, boosting user engagement and retention by 70%.

**Software Development Engineer**, Amadeus Software Labs – Bangalore India Jan 2021 – Oct 2022

- Created 'Chatbot as a Service', a modular framework to reduce chatbot development effort by more than 50%.
- Developed and released standalone Java libraries for Google Dialogflow, IBM Watson's NLP APIs, and MongoDB.
- Rectified malfunctioning SQL database purge scripts, reducing disk space usage over 90%.
- Resolved daily incidents promptly in the C++ based Back Office Tool, resulting in a 40% incident reduction.
- Built a Splunk Dashboard for Functional Monitoring and FMEA, cutting manual tasks by 50%.

**Student Developer**, Google Summer of Code – Remote Jun 2020 – Aug 2020

- Contributed to the project 'Social Street Smart' for combating fake information on the internet.
- Created and deployed serverless Machine Learning models, CI/CD pipelines and APIs for fake news detection.
- Migrated TensorFlow Machine Learning models to lightweight TFLite models & deployed them to AWS Lambda.
- Developed a JavaScript API to detect misinformation in images using the Google Images API.

## Projects

**Retrieval-Augmented Generation for Internal Documentation** Jul 2024 – Aug 2024

- Developed a RAG pipeline that optimizes LLM responses based on proprietary documentation.
- Implemented a user-friendly web UI using Flask for uploading documentation and interacting with the model.
- Evaluated the correctness and accuracy of responses with RAG enabled and disabled across multiple LLMs.

**Automated Trading System** Mar 2024 - Apr 2024

- Built LSTM models to predict daily temperatures for four cities using multi-source weather data.
- Created an automated trading system with Kalshi Python API, earning \$1,887 profit.
- Collected, cleaned and processed weather data from four sources via APIs for model training.

**Fault Tolerant Key-Value Store** Oct 2023 – Nov 2023

- Implemented the Raft distributed consensus algorithm using Go, and built a key-value storage service using it.
- Ensured robustness against various network and node failures by using an extensive suite of unit tests.

## Education

**Boston University** Sep 2023 - Dec 2024

MS in Computer Science | GPA: 3.74 / 4.00

Courses: Principles of Machine Learning, Distributed Systems, Tools for Data Science

**Thapar Institute of Engineering and Technology**

Jul 2017 - Jun 2021

BS in Electronics and Communication Engineering | GPA: 8.84 / 10.00

Courses: Principles of Machine Learning, Distributed Systems, Tools for Data Science