

# Pranav Goyanka

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## TECHNICAL SKILLS

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

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

**Tools & Libraries:** Flink, Kafka, Redis, scikit-learn, AWS, RESTful API, Git, Linux

## EXPERIENCE

**Teaching Assistant & Course Designer** | *Distributed Systems (CS350 & CS351)* Jan 2024 – Present  
*Boston University* *Boston, MA*

- 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** Oct 2022 – Jul 2023  
*Mobile Premier League* *Bangalore, India*

- Engineered backend systems and centralized libraries for Node.js microservice based server-authoritative games.
- Optimised 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** Jan 2021 - Oct 2022  
*Amadeus Software Labs* *Bangalore, India*

- 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%.
- Built a Splunk Dashboard for Functional Monitoring and FMEA, cutting manual tasks by 50%.
- Resolved daily incidents promptly in the C++ based Back Office Tool, resulting in a 40% incident reduction.

**Student Developer** Jun 2020 - Aug 2020  
*Google Summer of Code* *Remote*

- 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** | *RAG, LLMs* 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** | *Python, TensorFlow, scikit-learn* 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** | *Go, Raft Consensus Algorithm* 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** Boston, MA  
*MS in Computer Science* | *GPA: 3.78/4.00* Sep 2023 – Dec 2024

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

**Thapar Institute of Engineering and Technology** Patiala, India  
*BE in Electronics and Communication Engineering* | *CGPA: 8.84/10.00* Jul 2017 – Jun 2021

Courses: Data Structures and Algorithms, Operating Systems