**Pranav Goyanka**

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**EDUCATION**

**Boston University Dec 2024**

MS in Computer Science | GPA: 3.78/4.00 Boston, MA

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

**Thapar University Jun 2021**

BE in Electronics and Communication Engineering | CGPA: 3.73/4.00 Patiala, India

Courses: Data Structures and Algorithms, Operating Systems

**SKILLS**

* **Programming Languages:** Go, TypeScript, JavaScript, C++, Python, Java, SQL, HTML/CSS
* **Frameworks:** PyTorch, TensorFlow, Docker, Node.js, Socket.IO, WebSocket, OpenTelemetry, gRPC, Flask
* **Tools and Libraries:** Docker, Apache Flink, Kafka, Redis, scikit-learn, AWS, RESTful API, Git, Linux, DynamoDB
* **Other Skills:** System Design, Agile Development, Scrum, Code Reviewing, Testing, Team Collaboration, Object Oriented Programming, JSON, Pub/Sub, Event Driven Architecture, Service-Oriented Architecture

**EXPERIENCE**

**Graduate Teaching Assistant and Course Designer Jan 2024 – Present**

Boston University Boston, MA

* Implemented the OmniPaxos consensus protocol and developed over 30 unit-tests in Go.
* Designed assignments, grading infrastructure, and coursework for writing formal specifications using TLA+.
* Conducted weekly lab sessions and office hours for the courses CS350 and CS651 taught by Prof. John Liagouris.

**Software Development Engineer Oct 2022 – Jul 2023**

Mobile Premier League Bangalore, India

* Achieved a 40% reduction in infrastructure costs and utilization by implementing a library for metrics collection and auto-scaling using OpenTelemetry, enabling graceful node shutdowns and adoption across 7 projects.
* Boosted user engagement and retention by 70% by expanding matchmaking systems with cross-country support, enabling seamless interactions across international user bases.
* Enabled faster development and reduced bugs by engineering backend systems and libraries for Node.js microservice based server-authoritative games, eliminating boilerplate code across 7 existing and upcoming games.

**Software Development Engineer Jan 2021 – Oct 2022**

Amadeus Software Labs Bangalore, India

* Reduced chatbot development effort by over 50%, by accelerating bootstrapping time, by creating ‘Chatbot as a Service’, a modular Java framework for NLP APIs used by over 5 teams.
* Reduced incidents by 40% by enhancing the stability and recovery mechanisms of the C++ based Back Office tool.

**Software Developer Jun 2020 – Aug 2020**

Google Summer of Code Remote

* Contributed to the ‘Social Street Smart’ project to combat misinformation by developing tools during GSoC, selected as part of the 18% of applicants globally.
* Generated and deployed serverless Machine Learning models, CI/CD pipelines, and APIs for fake news detection.
* Reduced model size by 85% by migrating TensorFlow machine learning models to TFLite; hosted them on AWS Lambda.

**PROJECTS**

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

* Developed a RAG pipeline that optimizes LLM responses based on proprietary documentation.
* Created a user-friendly web UI using Flask for uploading documentation and interacting with the model.
* Evaluated the correctness and accuracy of responses across 5 different LLMs with RAG enabled and disabled.

**Automated Trading System Mar 2024 – Apr 2024**

* Predicted daily temperatures using LSTM models and performed automated trading with over 80% accuracy.
* Collected, cleaned, and processed weather data with over 12,000 data points from 4 sources via APIs for model training.

**Flink on the Edge** **Jan 2024 – May 2024**

* Added heterogeneous device support to Apache Flink for enabling Edge compute on geo-distributed queries.
* Built a system for dynamically offloading intensive tasks to edge nodes to minimize overall latency.
* Developed a Docker environment to simulate network conditions for running experiments and benchmarking.

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

* Built a scalable key-value storage service by implementing the Raft distributed consensus algorithm in Go.
* Ensured robustness against network and node failures by using a comprehensive suite of over 40 unit-tests.