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:** Pub/Sub, Event Driven Architecture, Service-Oriented Architecture, System Design, Agile Development, Scrum, Code Reviewing, Protocol Buffers, Team Collaboration, Object Oriented Programming, JSON, Version Control

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 multiple cross-functional teams.
- 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 with extensive end-to-end testing for Node.js microservice based server-authoritative games, eliminating boilerplate code across 7 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 using Spring Boot for NLP APIs and database APIs used by over 5 teams.
- Reduced incidents by 40% by enhancing the stability, recovery mechanisms and regression tests of the C++ based Back Office tool, to comply with the IATA NDC standards.

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 achieve low latency and high scalability.
- Developed a Docker environment to simulate network conditions for running experiments and benchmarking.