Pranav Goyanka

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EXPERIENCE

Teaching Assistant and Course Designer **Jan 2024 – Present**
Boston University Boston, MA
- Implemented the OmniPaxos consensus protocol and wrote extensive 30+ 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 for the courses CS350 and CS651.

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 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%.
- Resolved daily incidents promptly in the C++ based Back Office Tool, resulting in a 40% incident reduction.

Software Developer **Jun 2020 – Aug 2020**
Google Summer of Code Remote
- Contributed to the project 'Social Street Smart' for combatting fake information on the internet.
- Generated and deployed serverless Machine Learning models, CI/CD pipelines and APIs for fake news detection.
- Migrated TensorFlow machine learning models to lightweight TFLite models and deployed them to AWS Lambda.
- Developed a JavaScript API to detect misinformation in images using the Google Cloud APIs.

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 5 different LLMs.

Automated Trading System **Mar 2024 – Apr 2024**
- Performed automated trades on Kalshi using LSTM models to predict daily temperatures for four cities.
- 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 scalable 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 **Dec 2024**
MS in Computer Science | GPA: 3.78/4.00 Boston, MA
Courses: Natural Language Processing, Principles of Machine Learning, Distributed Systems, Tools for Data Science

Thapar University **Jun 2021**
BE in Electronics and Communication Engineering | CGPA: 3.73/4.00 Patiala, India
Courses: Data Structures and Algorithms, Operating Systems

TECHNICAL 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**: Apache Flink, Kafka, Redis, scikit-learn, AWS, RESTful API, Git, Linux, AWS S3, SQS, 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