REETI PRADHANANGA

Master's in Computer Science | Software Engineer | Backend Developer

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SUMMARY

Highly motivated Software Engineer with hands-on experience in backend development, microservices, and distributed systems. Proven track record of building reliable and scalable applications using Go and Python. Strong foundation in SDLC, Agile methodologies, and test-driven development. Skilled in SQL/NoSQL, API design, and source control. Passionate about delivering mission-critical software that enhances operational efficiency and supports enterprise tools.

TECHNICAL SKILLS & TOOLS

Languages/Database: Python, Go, PowerShell, JavaScript, HTML, CSS**,** MySQL, PostgreSQL, MongoDB
Tools: Visual Studio Code, Google Colab, Jupyter, PyCharm, GitHub, GoLand, git, Postman, AWS
Libraries/Frameworks: Django, Express, Node.js, Gin, Echo, Pandas, NumPy, PyTorch, Scikit-Learn, TensorFlow, Selenium
AI/GenAI Tools & Frameworks: OpenAI, Ollama, LangChain, FAISS, Chroma, HuggingFace
Core Technical Skills: RESTful APIs, GraphQL, Microservice Architecture, Go Concurrency (goroutines, channels), Agile Methodologies, Machine Learning, GenAI, LLMs
Soft Skills: Analytical thinking, Collaboration, Remote Team Communication, Problem-solving

WORK EXPERIENCE

Graduate Research Assistant, *University of Louisiana at Lafayette* January 2025 - May 2025

- Designed and implemented scalable backend systems in Python for real-time traffic data analysis.
- Developed predictive models for congestion forecasting using CNNs and ConvLSTM.
- Integrated OpenCV and SUMO simulation software for automated traffic analysis.
- Wrote automated scripts and tests to ensure data quality and processing pipeline accuracy.

Graduate Teaching and Research Assistant, *University of Louisiana at Lafayette* August 2024 - December 2024

- Conducted data analysis & predictive modeling for biomedical datasets using Python.
- Conducted research on Acute Mountain Sickness (AMS) prediction using classical machine learning and Hyperdimensional Computing (HDC).
- Led hands-on Python programming labs, debugging code, and mentoring students.

Backend Developer, *RARA Labs* June 2021 - December 2023

- Developed and optimized scalable backend services for fintech applications using Go.
- Streamlined API development workflow by implementing GraphQL endpoints alongside RESTful services, reducing integration complexity, and improving data access patterns.
- Built CI/CD pipelines using GitHub Actions and Docker to automate testing and deployment of backend services.
- Engineered robust authentication systems with JWT integration, establishing comprehensive permission-based authorization frameworks for secure data access.
- Improved database query performance in PostgreSQL through indexing & query optimization.
- Leveraged Go's concurrency model with goroutines & channels to reduce response times.

Software Engineering Intern, *Leapfrog Technology, Inc*. January 2021 – June 2021

- Developed interactive web applications using JavaScript, HTML, and CSS.
- Built and maintained RESTful APIs using Node.js & Express.
- Engineered responsive web applications and RESTful APIs using Node.js stack, implementing robust solutions for complex business requirements.
- Streamlined development workflows by integrating modern JavaScript frameworks and optimizing API performance for enhanced user experience.

EDUCATION

M.S., Computer Science, University of Louisiana at Lafayette, 4.0 GPA — January 2024 – May 2025
B.E., Computer Engineering, Tribhuvan University *(Batch Topper)* — November 2017 – April 2022

PROJECTS

Insurance Agent *(Python, LangChain, OpenAI, FAISS, ChromaDB, Gradio)*

- Developed advanced QA pipelines combining LLMs (OpenAI, Ollama) with RAG (Retrieval-Augmented Generation) techniques.
- Built a virtual corporate assistant capable of accurately answering queries.

Sentiment Analysis with Bi-LSTM *(Python, TensorFlow, Keras, Pandas)*

- Implemented Bi-LSTM (Bidirectional Long Short-Term Memory) for sentiment analysis.
- Tested on Amazon review datasets, achieving improved sentiment classification accuracy.

Twitter Sentiment Analysis On Gadget Reviews *(Django, ReactJS, Pandas, PostgreSQL)*

- Built a real-time sentiment analysis tool using Naïve Bayes Classifier, analyzing tweets about gadgets.
- Integrated Twitter API for live data collection and preprocessing.

Hamro Krishi *(NodeJS, HTML, CSS, MongoDB)*

- Developed a full-stack marketplace for farmers to list and sell products.
- Implemented real-time chat functionality to enhance user engagement.

Job Recommendation System *(Django, Bootstrap, PostgreSQL)*

- Created a web application using a Content-Based Filtering Algorithm to recommend IT-related jobs based on user skills and preferences

Roll with It *(C++, Graphics.h)*

- Developed a single-player car game where the speed increases with each level, showcasing programming skills and game design

RESEARCH & PUBLICATIONS

- **AMS-HD: Acute Mountain Sickness Detection with Hyperdimensional Computing** *(ISCAS 2025 – Accepted)*
- **Digital Twin-Aided Municipal Traffic Control** *(SUMO Conference 2025 – Accepted)*

AWARDS

KulRatna Tuldahar Award (*B.E. University Topper, Undergraduate*)