Vigyat Goel

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Summary

AI/ML student specializing in deep learning, backend, and cloud. Built production-ready projects like GoTorch and Vigyaan, achieved **97% accuracy** in diabetic retinopathy detection and developed secure AI systems at DRDO. Proficient in **PyTorch, Docker, & AWS**.

Education

University School of Automation and Robotics (Guru Gobind Singh Indraprastha University, Delhi)
B.Tech in Artificial Intelligence and Machine Learning Nov 2022 – Aug 2026 (Expected)
CGPA: 8.98
Relevant Coursework: Machine Learning, Deep Learning, Computer Vision, Reinforcement Learning, Digital Image Processing, Analysis and Design of Algorithms

Vivekanand School, Delhi
Class XII (CBSE): PCM with Computer Science 2022
Percentage: 90.4%

Experience

- **Research Intern | Defence Research and Development Organisation (DRDO)** June 2025 – July 2025
  Engineered an air-gapped RAG Q&A system for secure PDF analysis using local LLMs significantly reducing document analysis time. Managed the full pipeline from data preprocessing to prompt engineering.
  Technologies Used: Python, Ollama, RAG, Gemma, Llama, PyPDF2, Prompt Engineering.
- **Machine Learning & Backend Developer | Quamin Tech Solutions, Delhi (Remote)** Jan 2025 – Apr 2025
  Developed and deployed backend APIs for ML model integration, improving model accuracy from 80% to 95%.
  Implemented CI/CD practices, managed cloud deployment and monitoring to enable scalable model serving.
  Technologies Used: FastAPI, Docker, AWS, TensorFlow, Scikit-learn, LLM integration.
- **Backend Developer Intern | DroidShift IT Solutions, Delhi** June 2024 – July 2024
  Developed a backend API to reliably capture and store user event data, supporting the app's core user tracking functionality.
  Integrated deployment pipelines to host the service on AWS EC2.
  Technologies Used: FastAPI, Python, SQLite, MongoDB, AWS EC2.

Projects

- **GoTorch - Deep Learning Library in Go**
  Built a deep learning framework from scratch in Go supporting core neural network layers(Linear, Conv2D), optimizers (SGD, Adam), loss functions, and model serialization; includes a sequential API for training and persistence.
  Technologies Used: Go, Gorgonia(Tensor), Neural Network fundamentals.
- **Diabetic Retinopathy Detection (Ongoing)**
  Engineered a custom CNN architecture that outperformed established models (InceptionV3, EfficientNet, ResNet) in detecting Diabetic Retinopathy, achieving a 97% classification accuracy across five severity levels.
  Technologies Used: Python, PyTorch, OpenCV, Scikit-learn.
- **Vigyaan - ML & Data Science Platform**
  Built a platform for rapid exploratory data analysis, interactive visualizations, and baseline ML model training from CSV inputs. Created end-to-end data ingestion, charting, and model inference workflows.
  Technologies Used: FastAPI, Streamlit, Python, Pandas, NumPy, Matplotlib, Scikit-learn, CI/CD.

Technical Skills

- **Machine Learning & AI:** PyTorch, TensorFlow, Scikit-learn, OpenCV, LangChain, Ollama
- **Backend Development:** FastAPI, Go, REST APIs, Deployment Pipelines
- **DevOps & Cloud:** Docker, GitHub Actions (CI/CD), AWS, Google Cloud, Prometheus, Grafana
- **Programming Languages:** Python, Go, Java, C
- **Databases:** MySQL, MongoDB, SQLite
- **Tools:** Git, Postman
- **Mobile Development (Secondary):** Android (Jetpack Compose, MVVM), Firebase