

Roger Richard Demello

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SUMMARY

Aspiring software developer with expertise in **C++ and Python**, specializing in **Machine Learning, Generative AI, and Agentic AI systems**. Experienced in building end-to-end **AI systems**, including **RAG pipelines, LLM-powered applications, and production-ready backend services** across healthcare, sales, and workflow automation domains.

WORK EXPERIENCE

AI LifeBOT

AI Engineer Intern

Jan 2026 - Present

- **Built and deployed 3+ production-grade LLM applications and autonomous AI agents**, serving 200+ test users with tool integration, **long-term memory**, and goal-driven workflows
- **Architected end-to-end AI pipelines** integrating LLMs, **vector databases**, external **APIs**, and streaming layers, improving system reliability and reducing inference latency through optimized retrieval and caching strategies
- **Led research and rapid prototyping of scalable AI solutions**, presenting weekly technical reviews and delivering comprehensive documentation to support production deployment

CFM, RCOEM

Machine Learning Intern

May 2025 - Jul 2025

- Enhanced a machine learning-based **sleep disorder prediction** system using lifestyle and physiological data, improving model **robustness and generalization**
- Achieved **87% prediction accuracy** through structured **feature engineering** and **statistical analysis** of stress levels, sleep duration, and blood pressure
- Built, trained, and evaluated models using **Python, Scikit-learn, and Pandas**, implementing end-to-end **data preprocessing, validation, and performance analysis workflows**

SKILLS

Programming Languages: C, C++, Python, Java

Machine Learning & AI: TensorFlow, Scikit-learn, NumPy, Pandas, PyTorch

Generative & Generative AI: RAG Pipelines, Vector Databases, Multi-Agent Systems, Ollama, LLaMA

DevOps & Tools: Amazon Web Services, Git, GitHub, CI/CD, FastAPI, Flask, REST APIs

PROJECTS

DealSentry – Intelligent Proposal Guard

[GitHub](#)

- Built an **enterprise AI-powered** compliance and risk analysis platform for **sales proposals** using **React, TypeScript, Node.js, PostgreSQL, and Azure OpenAI**
- Designed a rule-based compliance engine with AI-driven risk scoring, **document ingestion** (DOCX/PDF), **approval workflows**, audit trails, and contract **lifecycle tracking**
- Integrated **CRM and enterprise tools** (Salesforce, HubSpot, Gmail, DocuSign) with role-based access control, enabling **automated validation**, faster approvals, and reduced compliance risk

LifePulse - AI-Powered Health Analytics

[Demo Link](#) | [GitHub](#)

Technologies: Flask, Python, TensorFlow, Scikit-learn, XGBoost, Google Gemini AI, Rule-Based Engine

- Built ML-driven **health analytics** and nutrition tracking modules using **ensemble models (TensorFlow, Scikit-learn, XGBoost)**, optimizing for **prediction accuracy** and **deploying via Render**
- **Integrated** rule-based decision engines with **LLM-powered assistance (Google Gemini AI)** to deliver personalized, explainable **health recommendations**

LabLingo - AI-Powered Scientific Dictionary

[GitHub](#)

- Built **LabLingo**, an AI-powered scientific dictionary leveraging **local LLM inference (Ollama with LLaMA 3.2)** to generate accurate, real-time definitions without external APIs or preloaded datasets
- Implemented an **AI inference and caching pipeline** to support fast repeat queries, consistent outputs, and secure session-based access
- Designed an **offline-first, privacy-focused AI system** demonstrating practical deployment of **local LLMs for educational and knowledge-access applications**

EDUCATION

Shri Ramdeobaba College of Engineering and Management

Bachelor of Technology in Electronics and Communication (CGPA 8.73)

Minor in Artificial Intelligence and Machine Learning (CGPA 9.6)

CERTIFICATIONS

- AWS Certified Cloud Practitioner - Amazon Web Services (Issued October 2025)