Anish Reddy
Machine Learning Engineer

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TECHNICAL SKILLS

Languages & Libraries	Python, C/C++, PyTorch, Tensorflow, MLX, scikit-learn, NumPy, Pandas, FastAPI, Flask, SQL, NoSQL
AI/ML Expertise	NLP, LLMs, Neural Networks, Transformers, Model Development, Training, Fine-tuning, Optimization, Evaluation, RAG, Vector Databases, Vector Embeddings, Prompt Engineering, Hyperparameter Tuning
MLOps & Deployment	Git, Docker, MLFlow(CI/CD), Azure, AWS, Hugging Face, Ollama, TinyML, Langchain, LlamaIndex

PROFESSIONAL EXPERIENCE

Machine Learning Engineer   **Apr 2024 — Present**
OCAS   *Waterloo, ON*
- Engineered end-to-end AI advisor from prototype to beta using Llama & Azure OpenAI to enhance college program discovery.
- Built semantic search pipeline for 10,000+ college programs using BERT embeddings & Azure Vector DB, delivering 3x more relevant matches & reducing search latency by 85%.
- Fine-tuned Llama 3 8B using LoRA on a student-program data set, delivering a 60% improvement in recommendation accuracy.
- Scaled recommendation system from Llama 3 8B to Azure OpenAI, achieving 3x accuracy via prompt optimization & A/B tests.
- Architected ML pipeline with Docker & Azure, implementing methods to address bias and fairness for responsible AI deployment.
- Designed real-time user profiling through optimized LLM prompts & validation chains, powering contextual recommendations.

AI/ML Engineer   **Sep 2023 — Apr 2024**
SMART Centre   *Waterloo, ON*
- Fine-tuned & optimized a dialogue model for microcontroller deployment, achieving natural conversations with minimal latency.
- Optimized trained SLM for edge deployment using quantization & pruning, reducing inference latency by 80% on microcontroller.
- Built an efficient inference pipeline for conversational SLM on embedded system, enabling real-time natural dialogue processing.

Executive Lead   **Nov 2023 — Present**
Google Developer Groups - On Campus   *Waterloo, ON*
- Organized events and strategic initiatives for a community of 1,000+ members, driving significant growth and engagement.
- Conducted TensorFlow workshops & hands-on projects, enabling 200+ students to understand & build impactful AI applications.

NOTABLE PROJECTS   *Project Portfolio* </>

Aqua Pinion | Drowning Detection and Prevention Chest Strap - SVM, Sensor Fusion, TinyML, scikit-learn, Python, C/C++, CAD
- Engineered a sensor-driven wearable using ML to detect drowning with 95% precision and deploy a life-saving inflatable.
- Developed a custom SVM classifier for microcontroller using sensor fusion, enabling real-time drowning detection & prevention.

Embeddium | Vector Embedding Desktop Application - PyQt5, Transformers, GPU Optimization, Python, Hugging Face
- Built desktop application to generate vector embeddings from multiple data formats with automated model selection.
- Engineered multi-format pipeline with GPU acceleration & threading, enabling rapid CSV/JSON to FAISS/HDF5 conversion.

Typez | AI-Driven Typing Improvement Tool - Local models, scikit-learn, PyTorch(Win), MLX(Mac), Python, Pandas, SQLite
- Built an AI-powered typing analyzer that tracks user patterns & generates personalized exercises targeting specific weaknesses.
- Implemented a keystroke pattern recognition system using ML, enabling a 30% average improvement in typing proficiency.

ACTIVITIES & LEADERSHIP

Conestoga Computing Society | President & Founder   **Sep 2024 — Present**
- Founded a 300-member CS community, hosting 10+ events/workshops to enhance skills and foster campus-wide collaboration.

ConHacks - Hackathon | President & Co-Founder   **May 2023 — Present**
- Initiated, planned, and executed a 130-participant hackathon, managing logistics, marketing, and operations to drive innovation.

Peer-Assisted Learning Leader & Tutor   **Mar 2023 — Present**
- Led tutoring sessions on C Programming for 25+ students in DSA, OOP, and core CS topics, improving overall grades by 45%.

Atal Tinkering Lab | Student Lead   **Feb 2018 — Aug 2020**
- Collaborated with 150+ students on IoT and ML projects, winning 4 awards at national and international science & tech expos.

EDUCATION

Bachelor of Computer Science (Honours)   **Aug 2026 (Expected)**
Conestoga College, Waterloo, ON   GPA: 3.84

AWARDS AND ACHIEVEMENTS

Mentor: Hack The North 2024, Hawk Hacks, GDSC Hacks | **Judge**: GDSC Hacks, ConHacks | **Winner**: HackThe6ix | CSI Service Award |
Member of Program Advisory Committee: School of Applied Computer Science and IT | **Guest Speaker**: GDSC, Queens University |
Google DevFest Volunteer | Co-op Peer Mentor | **Student Innovator of the Year**: Atal Labs | Gold Medal: FGSI | NIRD RISC: 1st Place |