Yalda Nikookar

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EDUCATION

University of Waterloo

Waterloo, ON

Candidate for BASc in Systems Design Engineering

SKILLS

Technical Skills: Python, C/C++, Java, MATLAB, JavaScript, TypeScript, HTML, CSS, SQL, MongoDB, Regex, Bash, Git, JIRA, Google Cloud Platform, Amazon Web Services, Microsoft Azure, Arduino, JSON, REST APIs, WebSockets, Docker, SQL **Frameworks/Libraries:** ReactJS, NodeJS, NextJS, ExpressJS, LangChain, PyTorch, TensorFlow, OpenAI, Jupyter, Pandas, Microsoft, Copilot Studio, TailwindCSS, VS Code, GitHub, GitLab, Linux (Ubuntu, WSL), Postman, Docker, Figma, Arduino, OpenCV

WORK EXPERIENCE

SOFTWARE & MACHINE LEARNING CO-OP

Toronto, ON

Rogers Communications Canada Inc.

Aug. 2025 - Present

- Designing and implementing an **AI/ML solution** to automate quality review of internal documentation, applying **machine learning concepts** to transcribe, summarize, and analyze **large datasets** of podcasts and presentations.
- Developing Python-based pipelines leveraging TensorFlow, PyTorch, scikit-learn, Azure OpenAI, and LangChain, demonstrating understanding of data structures, algorithms, model training, and real-world AI implementation.
- Building and **training machine learning models** to evaluate content against accessibility and clarity standards, integrating outputs into corporate workflows using automation tools.

SOFTWARE ENGINEER CO-OP

Mississauga, ON

<u>RemitBee</u>

Jan. 2025 - Apr. 2025

- Developed and deployed a multimodal machine learning platform using Google Cloud Vision, Speech-to-Text, ASR, and Gemini LLMs, extracting structured insights from handwritten, audio, and image-based records with 97% accuracy.
- Built serverless **Python APIs** on **AWS Lambda** with **PostgreSQL**, enabling scalable parsing, triage, and summarization of clinical documents, reducing manual input by **40%** and improving operational efficiency.
- Leveraged **AI tools** such as **GitHub Copilot** and **cloud ML services** to accelerate development while critically evaluating their strengths, limitations, and practical applications.

MACHINE LEARNING RESEARCHER

Waterloo, ON

Wat.AI

Sep. 2024 - Mar. 2025

- Applied engineering principles to design and deploy **LangChain**-based pipelines using LLMs for legal contract analysis, leveraging **ReAct-style logic** and semantic filtering for clause segmentation and metadata extraction.
- Optimized model inference speed and accuracy by 30% using PyTorch, Pandas, and ONNX, implementing lightweight deployment, batch processing, and performance monitoring for scalable, reliable AI solutions.
- Integrated ML endpoints into interactive dashboards via **REST APIs**, reducing retrieval latency with async processing, caching, and prompt refinement, while ensuring outputs met responsible AI practices.

MACHINE LEARNING & DATA ENGINEER INTERN

Toronto, ON

EXera Solutions Inc.

Jan. 2024 - June 2024

- Developed a **deep learning–based** resume ranking system, using modular **NLP** pipelines for preprocessing, vectorization, and classification, and deployed inference with **Python, OOP, and RESTful endpoints** for real-time recruiter dashboards.
- Created **Tableau** dashboards to track resume ranking precision, recruiter usage trends, and candidate pipeline diversity metrics.
- Built scalable data pipelines for market intelligence using **Python**, **Ansible**, and **web scraping**, enabling weekly competitive reports and trend tracking in the **\$81.84B HR** tech market.

PROJECTS

LEGISLATIVE LLM (Long Language Model)

Mar. 2025

• Designed and evaluated four **RAG-based AI architectures** in gamified decision-making environments, comparing prompting strategies across a **Fast Mind–Slow Mind** advisory model and a **courtroom model** with two lawyer agents and a judge.

NEURO-GLOVES T

Feb. 2025

• Engineered real-time AI preprocessing for **Parkinson's tremor monitoring** using **Arduino** sensor streams and **OpenCV**, generating features for **ML** models and smart-home **automation** triggers.

PUBLICATIONS

Evaluating Decision-Making Generalization in RAG Agent Architectures: https://shorturl.at/47570 Madhav Malhotra, Mehar Shienh, Evan Dennison, Yalda Nikookar, Jordan Leis, Jennifer Yu, Devan Kisob