Henry Vendittelli

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Technical Skills

Programming Languages:	Python, Java, C, JavaScript (TypeScript), Bash, SQL, HTML, CSS
Libraries/Frameworks:	React, Next.js, Tailwind CSS, Express.js, FastAPI, Flask, Node.js
Machine Learning & Data:	PyTorch, TensorFlow, scikit-learn, pandas, Numpy, MongoDB, Firestore
Development Tools:	Git, GitHub Actions, Docker, GCP, AWS, Pantheon, Terraform, Auth0, Linux, Vim

Professional Experience

Empire Life Insurance Sept 2024 – Dec 2024

Software Developer (Part-Time) *Kingston, ON*

- Improved Empire Life's AODA compliance score to an all-time high of 97% with the digital assets team by addressing 73 accessibility-related tickets for Empire.ca using Drupal CMS and Pantheon.
- Worked with external agency Evolving Web to implement stable website fixes using Pantheon Multidev branches and WebOps workflows for efficient and reliable deployments to production.

Empire Life Insurance May 2024 – Aug 2024

Software Developer Intern *Kingston, ON*

- Developed and released end-to-end features for an internal technology reporting tool to improve the process of adopting new technologies using React.js, TanStack Query, Tailwind CSS, FastAPI, Firestore, Auth0 and GCP.
- Integrated Jira's REST API to the applications service layer, allowing the automatic creation of tickets for submitted reports to promote PM monitoring and solve the issue of abandoned submissions.
- Lead knowledge transfers with developers on different teams to help integrate Jira REST API into other services.

360Insights May 2023 – Aug 2023

Junior Data Scientist *Toronto, ON*

- Implemented a generic time series forecasting model using AdaBoost Regressor to predict customer rebates from historical data.
- Fine-tuned the hyperparameters to achieve accurate predictions on time series data and deployed the pipeline to AWS.
- Created a web scraping tool using Beautiful Soup to collect call transcripts from an external service, used NLP to preprocess data and K-Means clustering to model common issues from the call center to present to stakeholders.

Education

Queen's University Sept 2021 - May 2025

Bachelor of Computing (Honours) - Specialization in Cognitive Science *Kingston, ON*

Leadership and Club Involvement

Queen's Data Analytics Association (QDAA) May 2024 – May 2025

Project Manager *Kingston, ON*

- Leading a technical team of five students on an autonomous driving project utilizing CARLA to explore Deep Learning techniques using LiDAR and CV.

Queen's University Algorithmic and Network Trading Team (QUANTT) Sept 2023 – May 2024

Algorithm Developer *Kingston, ON*

- Participated in a team of 4 to develop an automated time-series day trading algorithm using QuantConnect to explore and test different Forex trading strategies.

Queen's Machine Intelligence and Neuroevolution Design (QMIND) May 2022 – Sept 2023

Innovation Design Team Member *Kingston, ON*

- Contributed to Canada's largest undergraduate artificial intelligence and machine learning organization by developing an innovative NLP solution for determining sentiment in written text.

Projects

Caselaw Access Project Retrieval-Augmented Generation | *Python, OpenAI API, Pinecone, Langchain*

- Created a RAG model to improve LLM context using the Harvard Library Innovation Lab's Caselaw Access Project.
- The user can specify specific states/volumes from the Caselaw Access Project, that creates vector embeddings in Pinecone which an LLM can index to improve the context of historical verdicts that shape modern law.

Album Art Scanner (SpinStash) | *Python, Flask, OpenCV, Gemini API, Spotify API, MongoDB*

- Designed a tool to track my collection of 417 CDs by creating an album art scanner using OpenCV and the Google Cloud Vision API to scan for web entities, then using the results to query the Spotify API for relevant album information.

Portfolio Website (henryvendittelli.com) | *Next.js, TypeScript, Tailwind CSS, Vercel*

- Designed and iterated on my portfolio website using Next.js to achieve perfect lighthouse scores for performance, accessibility, best practices and SEO.

Reddit Sentiment Analysis NLP (QMIND) | *Python, PyTorch, spaCy, NLTK, Pandas*

- Created a program that analyzes the most prevalent emotion in a sentence, trained on a annotated dataset of reddit comments mapping to 1 of 27 emotions.
- Used NLP such as tokenization, stop word removal, and lemmatization to preprocess the sentences and train a fine-tuned version of AlBert to achieve accurate emotion prediction.