

# Hassan Nasr Hassan

Software Engineer | [hassannasr.hsn@gmail.com](mailto:hassannasr.hsn@gmail.com) | [hassannasr.com](https://hassannasr.com) | Ottawa, Canada (Remote)

## Technical Expertise

**Languages:** (5yrs) Python, (3yrs) TypeScript, (3yrs) JavaScript, (5yrs) SQL, (2yrs) C#, (2yrs) Java

**Frameworks/Technologies:** NextJS, React, Serverless, Firebase, Stripe, Clerk, ASP.NET, Docker

**AI/ML:** Pinecone, OpenAI, Groq, Huggingface, LangChain, Numpy, Panda, Scikit-learn, Tensorflow, Keras

**Cloud & Databases:** AWS, Azure, Vercel, MongoDB, Drizzle, Redis, Postgresql, Redis

## Experience

[Innovation, Sciences and Economics Department](#), Software Engineer

Aug. 2024 – Present

- Leading daily data extraction of Bankruptcy user data from AWS PostgreSQL using AWS Data Migration Service and EventBridge to main Oracle database
- Built validation application using Python to test migration from Oracle to AWS Redshift, reducing migration time by 50%
- Developing contextual LLM with database Metadata using AWS Bedrock, Python and Node.js to set up data views for reporting team used by 10+ data analyzers
- Built SQL procedures to ensure monthly extraction of Canada bankruptcy data (4M+ rows) to ease reporting and analytics

[Headstarter](#), Software Engineering Resident

Jul. 2024 – Feb. 2025

- Deployed 10+ AI, full-stack projects in high performance environment
- Built 3 rag chatbot apps using Python, Typescript related to website scraping, University and inventory data
- Created 7 applications using Typescript, Python, Pinecone, GIT related to Crypto, Stock market and Customer Churn

[Transport Canada](#), Software Engineer

Feb. 2023 – May 2024

- Created an automated program to output curated tables in Databricks from Oracle to acquire data for 945 projects
- Developed neural networks in Python to predict Surplus allocation of funds to government projects across Canada
- Built infrastructure of efficient migration of data from Oracle to Databricks supporting 20+ program managers

[Defence Research and Development Canada](#), Data Science Intern

Jun. 2021 – Dec 2021

- Applied machine learning model from GitHub repositories based on existing optical character recognition studies to recognize images of typed, handwritten, and printed Arabic text using Python, Linux and Jupyter notebooks
- Assisted defense scientists in developing target tracking, 3D object detection, image captioning, and wireless sensor networks by conducting literature review on data fusion algorithms and methods and presenting findings to management

[Statistics Canada](#), Software Engineering Intern

Jan. 2020 – Aug 2020

- Built a user details table for names, roles, and groups in the Census 2021 app using C#, ASP.NET, and Azure
- Created synthetic demographic data and ran statistical tests to support an automated data generation tool using Python

## Projects

[FocusFriend](#) (Hackathon First Place for "MOST USEFUL AGENT" Prize by AI Tinkerers), Electron, Vite, React, Python, Open AI

May. 2025

- Tracks your digital activity, analyzes your focus patterns using AI, and delivers personalized insights with productivity tools

[LLM Evaluation](#), TypeScript, NextJS, Groq

Jan. 2025

- Evaluating LLMs producing evaluation score based on accuracy, relevancy etc.

[Anomaly Detector](#), TypeScript, NextJS, Python, ML

Jan. 2025

- AI stock market anomaly predictor for helping with investment recommendations

[Brain Tumor Classification](#), Python, ML, Sklearn, TensorFlow

Nov. 2024

- Applied neural networks in Python to classify 1,000 MRI scans into three brain disease types using a custom model

## Education

[Carleton University](#), Bachelor of Software Engineering

June 2022