

Hanine Sayeed

Nationality: Lebanese | **Address:** Beirut, Lebanon

Email: haninesayeed2003@icloud.com | **Phone Number:** [+961 70 828 944](tel:+96170828944) | [LinkedIn](#) | [GitHub](#)

Artificial Intelligence Engineer | Machine Learning Developer | Generative AI Specialist

SUMMARY

AI Engineer with hands-on experience building LLM-powered agents, semantic search systems, and deep learning models for real-world use cases across multiple domains. Skilled in prompt engineering, RAG architecture, vector databases, and agent frameworks, with experience in intrusion detection research using CNN and LSTM models. Focused on building practical, reliable AI systems that solve real problems, improve efficiency, and deliver clear, measurable results for users and teams.

CORE COMPETENCIES

Machine Learning, Deep Learning, Generative AI, Agent Development, Model Deployment, Data Engineering, Research Analysis, Semantic Search, Prompt Design, System Integration, Intrusion Detection

EDUCATION

Master's Degree in Computer Management Lebanese University	October 2023 – Present
BBA in Management Information Systems Lebanese University	October 2023

PROJECTS

Large Language Model Powered Semantic Book Recommender System	May 2026
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- Built a semantic book recommender using OpenAI embeddings stored in Chroma for scalable retrieval. Applied zero-shot classification and emotion analysis, delivering ranked recommendations through an interactive Gradio dashboard with category selection and emotional tone filtering.
- Technologies Used:** Python, OpenAI Embeddings, Chroma Vector Database, Hugging Face Transformers, Zero-Shot Classification, Sentiment Analysis, Gradio, Semantic Search.

Generative AI Social Media Content Agent	February 2026
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- Developed an autonomous AI agent powered by GPT-4o that transforms YouTube transcripts into platform-optimized content for LinkedIn, Instagram, and Twitter. Combined real-time web search with asynchronous processing in an interactive Streamlit interface to enable fast customization, efficient content generation, and streamlined publishing.
- Technologies Used:** Python, GPT-4o (OpenAI API), Streamlit, Async Programming, Web Search API Integration, LLM Orchestration.

Artificial Intelligence Powered Network Security Agent	February 2026
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- Built an agent integrating Nmap with GPT-4o via LangChain, enabling natural-language network scanning. Designed 8 specialized tools for port scanning, service detection, and vulnerability analysis with Pydantic validation for safe, reliable, controlled command execution.
- Technologies Used:** Python, GPT-4o (OpenAI API), LangChain, Nmap, Pydantic, Tool-Calling Agentic Architecture, Network Security.

Master's Thesis – Intrusion Detection System for UAV-IoT Networks

January 2025 - June 2026

- Built a novel dataset of 39,778 network flows with 47 features and 27 attack classes collected from a DJI drone testbed. Trained CNN, LSTM, CNN-LSTM, and ConvLSTM deep learning models for intrusion detection, achieving 0.8696 macro-F1 score.
- **Technologies Used:** Python, CNN, LSTM, ConvLSTM, SHAP, LIME, RAG, Large Language Models.

TRAINING AND CERTIFICATES

Machine Learning with Python | IBM (Coursera)

March 2026

Generative AI Engineering with Large Language Models Specialization | IBM (Coursera)

March 2026

PROFESSIONAL EXPERIENCE

Frontend Web Developer Intern | Horizontal Talent

September 2022 – December 2022

- Assisted in developing responsive web interfaces using HTML, CSS, and JavaScript, ensuring cross-browser compatibility, accessibility, optimized page performance, and consistent user experience.
- Collaborated with backend developers to integrate RESTful APIs, enhance application functionality, and ensure seamless data flow across dynamic, scalable, modern web applications.

SKILLS

Data Science: Python, Exploratory Data Analysis (EDA), Statistical Modeling, Feature Engineering, Data Visualization (Matplotlib, Seaborn), Pandas, NumPy, Dimensionality Reduction, Data Cleaning & Wrangling.

Machine Learning & Deep Learning Frameworks: PyTorch, TensorFlow, Keras, scikit-learn, JAX.

LLM & GenAI Tooling: Prompt Engineering, Fine-Tuning (LoRA, QLoRA), RAG Architecture, Vector Databases (Chroma, FAISS), LangChain, LlamaIndex, Hugging Face, OpenAI API, Anthropic API.

Agentic AI: Multi-Agent Orchestration, Agent Frameworks (LangGraph, AutoGen, CrewAI, OpenAI Swarm), Tool/Function Calling, Task Planning & Decomposition, Memory Systems (Short-Term & Long-Term), Model Context Protocol (MCP), ReAct Framework.

MLOps & Deployment: Docker, Kubernetes, GitHub Actions, GitLab CI, Jenkins, Mlflow.

Cloud Platforms: AWS (SageMaker, Bedrock, EC2, S3), Google Cloud (Vertex AI).

Backend and Frontend Development: REST APIs, FastAPI, Flask, Node.js, Express.js, Authentication and Authorization (OAuth, JWT), MySQL, JavaScript, TypeScript, Next.js, HTML5, CSS3, Basic UI/UX Principles, Java.

Version Control & Collaboration: Git, GitHub, GitLab, Jupyter/Colab, Agile/Scrum.

Soft Skills: Problem Solving, Team Communication, Attention to Detail, Fast Learner, Adaptability, Critical Thinking, Curiosity, Collaboration, Time Management, Analytical Thinking, Creativity.

LANGUAGES

Arabic (native), **English** (professional working proficiency), **French** (intermediate).