




# Malek BEN YOUSSEF


## Machine Learning Engineer

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### EDUCATION

#### Computer Science Engineering

National Institute of Applied Sciences and Technology (INSAT)   
2021 – Present | Tunis, Tunisia  
Specialization: Artificial Intelligence.

#### Pre-Engineering

National Institute of Applied Sciences and Technology (INSAT)   
2019 – 2021 | Tunis, Tunisia  
Maths-Physics-Computer Science

### LANGUAGES


**English**  
Proficient

**French**  
Proficient

**Spanish**  
Basic

### CERTIFICATES

**Professional Machine Learning Engineer**   
Google Cloud

**Deep Learning Specialization**   
DeepLearning.AI

**Scrum Fundamentals** 

### SKILLS

Python, C, C++  
Google Cloud Platform (GCP)  
Vertex AI, BigQuery  
Looker Studio  
TensorFlow, Keras  
LangChain, LlamaIndex  
SpaCy, NLTK, Beautiful Soup  
Competitive Programming  
Database and Data Management  
Version Control (Git / GitHub)

### PROFESSIONAL EXPERIENCE

#### Machine Learning Engineer

Premier Cloud Inc  
July 2024 | Victoria, British Columbia, Canada  

- Built a NL2SQL system that converts user queries into SQL queries to retrieve Google Cloud Platform (GCP) customers' billing information.
- Worked with Gemini LLM and achieved approximately 95% output accuracy.
- Performed SQL query optimization, improving information retrieval speed by 40%, and enhanced LLM output accuracy by 25% through well-structured prompt engineering.
- **Tech Stack:** Google Cloud Platform, Google AI platform, SQL, BigQuery, LLMs, Vertex AI

#### Machine Learning Engineer

Silver Brain AI AG  
November 2023 | Geneva, Switzerland  

- Developed a chatbot using the pre-trained LLaMA 2 model with 7 billion parameters to deliver detailed information about the company's services to clients.
- Employed Retrieval-Augmented Generation (RAG) techniques to optimize LLM text generation, resulting an improvement of approximately 30% in output quality
- **Tech Stack:** Python, LangChain, LlamaIndex, Lama2, Prompt Engineering

#### Full Stack Developer

Safran  
July 2023 | Tunis, Tunisia  

- Created a dashboard for 100+ users, that offers quick access to the company's equipment status.
- Integrating data visualization and real-time updates, achieving a 25% improvement in operational efficiency
- **Tech Stack:** Angular, Spring Boot, MySQL

#### Data Scientist

University of Moncton  
July 2022 | New Brunswick, Canada  

- Implemented a solution for colon disease detection that reduces 72% of false positives.
- Enhanced diagnostic precision by 85% in colon disease detection through the application of advanced data augmentation and EfficientNet model optimization techniques.
- **Tech Stack:** Python, Keras, TensorFlow, OpenCV, EfficientNet(B0 to B7)

### PROJECTS

#### Autonomous Navigation using Deep Reinforcement Learning

June 2024  

- Developed an autonomous robot navigation system employing the TD3 algorithm, resulting in a significant 85% improvement in navigation accuracy.
- Implemented deep reinforcement learning techniques to enable obstacle avoidance, achieving a 92% success rate in various test environments.
- **Tech Stack:** Python, ROS2, Rviz, Gazebo, TensorFlow.

#### Soccer Chatbot

December 2023  

- Built an information retrieval system about soccer based on 1000+ PDF file pages.
- Applied Llama 2 Model and RAG techniques achieving an exceptional 95% accuracy in information retrieval.
- **Tech Stack:** Python, LangChain, Chainlit, FAISS, OpenAI Embeddings, Llama2