MALEK BEN YOUSSEF

Machine Learning Engineering Student ⬦ MLOps & Cloud Computing Enthusiast

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PROFESSIONAL EXPERIENCE

Machine Learning Intern   Jul. 2024 – Sep. 2024
Premier Cloud   *Victoria, British Columbia, Canada*
- Built an NL2SQL system converting user prompts into SQL queries with natural language responses
- Helped the company's sales managers to quickly retrieve customer billing information
- Worked with Gemini LLM and achieved approximately 95% output accuracy.
- Optimized SQL queries, reducing query size and achieving a 40% reduction in BigQuery billing.
- Deployed the application using Google Cloud Run and managed a CI/CD pipeline with Google Cloud Build.
- **Skills**: GCP, BigQuery, SQL, Gemini, Vertex AI, Looker Studio, Prompt Engineering, Generative AI, Git

Machine Learning Engineer (Part-Time)   Nov. 2023 – Jan. 2024
Silver Brain AI AG   *Geneva, Switzerland*
- Developed a chatbot using Llama 2 LLM (7B parameters) to provide detailed service information to clients.
- Employed RAG techniques to optimize LLM text generation, improving output quality by 30%
- Integrated and deployed the chatbot application in a web app, managing a CI/CD pipeline
- **Skills**: Python, LangChain, LlamaIndex, Prompt Engineering, FastAPI, Git

Full Stack Developer Intern   July. 2023 – Sep. 2023
Safran   *Tunis, Tunisia*
- Created dashboard for 100+ users, that offers quick access to the company's equipment status.
- Integrated data visualization and real-time updates.
- **Skills**: Angular, Spring Boot, Git, SQL, REST APIs

Data Scientist Intern   Jul 2022 – Sep 2022
University of Moncton   *New Brunswick, Canada*
- Implemented a solution for colon disease detection that reduces 72% of false positives
- Improved colon disease detection accuracy by 85% using data augmentation and EfficientNet optimization
- **Skills**: Python, Keras, TensorFlow, OpenCV, EfficientNet(B0 to B7)

SKILLS

Programming Languages: Python, C, C++, Java, SQL
Machine Learning & AI Frameworks: TensorFlow, scikit-learn, LangChain, LlamaIndex, SpaCy, NLTK, Hugging Face
Cloud & MLOps: Google Cloud Platform , Vertex AI, BigQuery, Docker, CI/CD, GitHub Actions, Flask
Embedded AI & Robotics: TensorFlow Lite, Edge Computing, Microcontrollers, Tiny ML
Languages: English (Proficient), French (Proficient), Spanish (Basic)

PROJECTS

Autonomous Navigation using Deep Reinforcement Learning   May. 2024 – Jul. 2024
- Developed an autonomous robot navigation system using the TD3 algorithm.
- Achieved an 85% improvement in navigation accuracy.
- Implemented deep reinforcement learning for obstacle avoidance, achieving a 92% success rate in tests.
- **Skills**: Python, ROS2, Rviz, Gazebo, TensorFlow.

Soccer Chatbot   Dec. 2023 – Jan. 2024
- 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.
- **Skills**: Python, LangChain, Chainlit, FAISS, OpenAI Embeddings, Llama2

EDUCATION

National Institute of Applied Sciences and Technology (INSAT)   Tunis, Tunisia
National Engineer's Degree in Computer Science   *Sept. 2020 – Present*
Relevant Courses: Linear Algebra, Database Management, Algorithms and Data Structures,
Deep Learning, NLP, Cloud Computing, Big Data, Optimization Methods, Reinforcement Learning

CERTIFICATES

Professional Machine Learning Engineer		Deep Learning Specialization		Scrum Fundamentals	
Google Cloud	*Jul 19, 2026*	*DeepLearning.AI*	*Feb 24, 2024*	*SCRUMstudy*	*Feb 7, 2022*