TAHA BOUSSADEN

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EDUCATION

1337   **Khouribga, MA**
IT Architecture Student,   *Nov 2023 – Present*

FSAC   **Casablanca, MA**
Bachelor of Science in Computer Science,   *Oct 2020 - June 2023*

SELECTED PROJECTS

SARA: RAG Augmented LLM Robotics Integration
- Developed and integrated the Ollama LLM into a Raspberry Pi 4 edge device (resource-constrained deployment).
- Engineered a RAG system utilizing specific "seed facts" to ground the LLM's responses, ensuring contextual accuracy on top of its general knowledge base for the robotics platform.
- Utilized Python, Ollama, Raspberry Pi 4, and RAG System for development and deployment.

Cat Convolutional Neural Network (CNN) from Scratch
- Built a complete, functional convolutional neural network for image classification from scratch using only Python and NumPy, bypassing frameworks like PyTorch or TensorFlow.
- Achieved the following performance metrics on the validation set, demonstrating a complete implementation of backpropagation and optimization: accuracy of 0.56, precision of 0.69, and recall of 0.61.
- Utilized Python,

Docker Production WP Suite
- Designed and implemented a multi-container Docker Compose infrastructure.
- Built 8 containers for each of these services (WordPress, NGINX, MariaDB, Redis, FTP, Adminer, Portainer, WordPress website) from handcrafted dockerfiles based on minimal Debian images, ensuring full control and customization.
- Created a robust shared network, enabling secure internal communication while controlling external access via the NGINX reverse proxy.

AI Twitter Bot
- Designed and deployed a serverless with zero maintenance Python bot that runs 24/7, automating news aggregation, summarization, and scheduled tweeting for specified niches.
- Leveraged the Hugging Face transformers pipeline to integrate the BART (Meta AI) model for advanced abstractive summarization, condensing full articles into tweet-sized content.
- Utilized Python, Tweepy (Twitter API), Hugging Face transformers, BART, and serverless architecture for implementation.

SKILLS

Skills: Python | C/C++ | Bash | Next.js | NumPy | TensorFlow | SQL | Docker | Git/GitHub | AWS

CERTIFICATIONS

ALC Advanced Cycle   *American Language Center (ALC)*
Supervised Machine Learning: Regression and Classification   *DeepLearning.AI*
Neural Networks and Deep Learning   *DeepLearning.AI*

LANGUAGES

English: Proficient   **French:** Proficient