

Mohamed HANNANI, Generative AI Scientist

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EXPERIENCE

Data Scientist & AI Researcher

Sep 2023 – Now, Siegen, Germany

University of Siegen

—University of Siegen.

- Built In-Context Machine Translation systems using LLMs for Generic Text and Subtitles,
- Explored the power of BERT-models and LLMs for Moroccan Arabic Sentiment Analysis with different settings and assisted the classification with different Machine learning techniques.

Skills:

- Optimization
- LLMS
- Langchain
- Prompt Engineering
- Statistics
- Machine Translation
- Sentiment Analysis

ML Engineer & Data Scientist

Aug 2022 – July 2023, Casablanca, Morocco

Indatacore

—Leader in the digital industry based on artificial intelligence and Deep Machine Learning technologies.

- Led a team in enhancing data extraction from scanned bills by leveraging SoTA AI technologies, integrated as APIs in the Sky Onboarding™ platform, resulting in a remarkable 30% reduction in processing time and a 15% enhancement in accuracy.
- Collaborated with software engineers to deploy scalable machine learning models for SKyID™ using Docker and Kubernetes on AWS while implementing A/B testing strategies to assess and optimize model performance.
- Developed an automated system as part of the Sky Signature™ product for detecting and extracting unique signatures from diverse documents, including bank checks and contracts.
- Implemented cutting-edge OCR solutions with Flask API integration, achieving a remarkable 95% accuracy rate in verifying bank check validity and eliminating the need for manual verification.
- Implemented a system for automatic information extraction from bill documents, achieving a 98% accuracy rate and reducing manual effort while enhancing data processing efficiency by 70%.

Skills:

- Optimization
- AWS
- NoSQL database
- MLOps
- PyTorch
- LLMs
- FastAPI
- Data Pipeline
- XML
- JSON
- Falsk
- Statistics

Intern Data Scientist

Mars 2022 – Aug 2022, Casablanca, Morocco

Indatacore

- Implemented a system for automatic information extraction from bill documents, achieving a 98% accuracy rate and reducing manual effort while enhancing data processing efficiency by 70%.

- Strategically designed data cleaning and preprocessing pipelines for internal signature data, resulting in a remarkable 95% enhancement in data integrity and accuracy.
- Achieved a notable 97% accuracy in the anti-spoofing system, substantially mitigating the risk of unauthorized access to sensitive systems and resulting in a 50% decrease in security breaches related to spoofed identities.
- Incorporated the anti-spoofing model into a ReactJs app with TensorFlow.js, yielding a 30% faster response time for liveness detection, enhancing user experience, and bolstering defense against fraud attempts.

Skills:

- Web Scraping
- Tensorflow
- Machine Learning
- PyTorch
- ETL
- Transformers
- GCP
- APIs
- React.js
- Django

PROJECTS

Sky Documents Analysis

Sky Documents Analysis leverages deep machine learning technology to extract data from 156+ document types, revolutionizing information extraction.

Skills:

- Optical Character Recognition (OCR)
- Image Processing
- Natural Language Processing(NLP)
- AWS

- *MLOps*

Sky Bank Check™

Sky Bank Check™ is a revolutionary bank check analysis and data extraction system. This intelligent system leveraged deep machine learning technology to analyze and extract data from more than 62 bank check types, revolutionizing the banking industry.

Skills:

- *OCR*
- *Object Detection*
- *Transformers*
- *Image Processing*
- *Data Pipelines*

Sky Signature™

Sky Signature™ is a system that showcases the power of deep machine learning in signature analysis and pattern extraction from a diverse range of document types to intelligently detect and extract unique signatures from documents such as bank checks and contracts.

Skills:

- *Machine Learning*
- *Business Analysis*
- *Recurrent Neural Networks*
- *Data Processing*

Sky Face Analysis™

Sky Face Analysis™ leverages deep machine learning for face recognition, analysis, and liveness detection, offering advanced identity verification and fraud detection capabilities.

Skills:

- *CNN*
- *Tensoflow.js*
- *React.js*

- *Web Development*
- *API*
- *Image Processing*

CERTIFICATES

Generative AI with Large Language Models

Coursera • Aug 2023 - July 2023

Natural Language Processing with Attention Models

Coursera • June 2021 - Aug 2021

Machine Learning

Coursera • Apr 2021 - June 2021

Apply Generative Adversarial Networks

Coursera • May 2021 - July 2021

EDUCATION

Master of Data Science

The University of Cadi Ayad • Marrakech, Morocco

2020 - 2022

Bachelor of Computer Science

The University of Cadi Ayad • Marrakech, Morocco

2017 - 2020

HARD & SOFTWARE SKILLS

- *Strong interpersonal and multilingual communication abilities, adeptly collaborating with cross-functional teams in an agile framework to advance project objectives and stimulate innovative solutions.*
- *Proficient in Python, Scala, and R for data manipulation, analysis, and modeling.*
- *Familiarity with big data frameworks such as Apache Spark, and Apache Kafka for handling large-scale data processing.*
- *Ability to articulate ideas, fostering a cohesive and productive work environment.*
- *Effectively convey complex technical ideas to diverse audiences.*
- *Proficiency in data engineering tools, such as Ansible and Terraform, to automate infrastructure provisioning, configuration, and deployment processes.*
- *Knowledgeable in various database systems, including relational and NoSQL databases.*
- *Proficient in containerization with Docker and container orchestration with Kubernetes.*
- *Proficient in SQL and database management for data retrieval and manipulation.—*