

Karim Hussami

Data Science and Machine Learning

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in Karim Hussami 🌐 Github 📈 Upwork 🖱 Portfolio

Profile

I am a proficient Python Developer with a robust background in data science, engineering, and machine learning methodologies. My passion lies in assisting companies and entrepreneurs in harnessing the power of their data to uncover insights, enhance production efficiency, and tackle operational challenges.

Driven by a keen interest in general problem solving, I am dedicated to crafting innovative solutions for automation and control systems. My interests extend to exploring and researching cutting-edge techniques and applying them to manipulate both structured and unstructured data effectively.

Technical Skills

Python (5+ years), SQL, Java, Bash, R, Git, Docker, AWS, GCP, Azure
Python: Numpy, Pandas, Sklearn, Tensorflow, Keras, Pytorch, XGBoost, Django

A.I and Machine Learning

Prediction, Classification, Time-Series, NLP, Computer-Vision, Unsupervised Learning and Deployment:
Logistic & linear regression, random forest, LSTMs, CNN, transformers, clustering, PCA, MLOps

Data Management and Analytics

Databases & warehouses, pipelines, ETLs, integration, automation, analysis & dashboarding: BigQuery, S3, MongoDB, Airflow, Zapier, fivetran, dbt, Power BI, Looker

Generative A.I and Reinforcement Learning

Custom agent/environment design, Q-learning(DQN), policy optimization (Actor-Critic models)
Language, music, image generation, GPT, GANs,

Professional Experience

10/2023 – present

Data Science/Analytics lecturer and teacher.

Le Wagon Coding School

- Delivered engaging lectures to students on data related topics including: collection, transformation, dashboarding as well as modelling, and deep learning.
- Assisted students with challenges using deep learning methods and cloud based data tools, such as warehouses, ETLs, dashboards, automation and orchestration.
- Mentored and advised deep learning and data science students for their final portfolio project. Supervising stand-up and checkpoint meetings.

06/2021 – present
Worldwide

Data and Machine Learning Specialist

Freelance

- Predictive modelling lettuce growth for hydroponic farm:
 - In charge of creating an advanced data-based solution to predict lettuce weight and health at harvest.
 - Refined raw data through meticulous processing to create and continuously update growth history
 - Developed and tuned models to predict lettuce weight and health at harvest.
- Time-Series forecasting inventory shortages :
 - Created a model aimed at anticipating inventory shortages for power tools.
 - Developed, scheduled and automated a web scraper to gather daily stock availability

- Trained, tuned and deployed model. Set up dashboards to visualize forecast and make operational decisions.
- NLP on short stories for passage retrieval and text extraction:
 - Machine learning and data engineer on a project looking to analyse a large corpus of short stories and extract relevant narrators to create a social network,
 - Worked on the extraction, transformation, storage and preparation of the data getting it ready for the NLP models along the pipeline.
 - Developed and integrated both a sentence segmentation and a NER model to respectively localize and extract the names of the narrators.
- Data engineering and A.I tech products Market Research:
 - Researched and compared over 60 tech products related to data storage, ingestion, processing, ML, and orchestration.
 - Evaluated and rated categories including ease of use, processes, features available and the technology behind each

11/2022 – 05/2023
Berlin, Germany

Data Consultant

Sopra Steria

- Process consultant working on the implementation of an online system for software-defined networks for a leading German telecommunications provider.
- Data scientist working on a customer project. In charge of developing and tuning multiple sales prediction models, using LSTMs and transformers.
- Participated on developing a new module for the internal telecommunications course "Telco Basics". Involved in the discussions for the "Operations: System Inventory and Planning" chapter.

Education

French Baccalauréat

Série S
Spécialité mathématiques.
Lyceé Charles de Gaulles - 2012

B.ENG Electrical Engineering

Minors in Mathematics and Computer-Science
McGill University
Montréal, Canada 2013 - 2018

Deep Learning Specialization

Coursera, Stanford
March - April 2021

Data Science and Machine Learning

Data Science Retreat
Berlin, Germany 2022

Other Projects

A Star is born: Image generation using GANs

Generator-Critic model using the Generative adversarial networks trained on the celebA dataset to learn to generate new/fake realistic "attractive" faces.

IMDB reviews: sentiment analysis [↗](#)

Sentiment analysis models to determine the emotional tone of a review and the overall reception of a movie. Used and compared Naive-Bayes, Neural Networks, word embeddings, LSTMs and transformers models.

Smart Network traffic controller: Reinforcement Learning and telecom networks [↗](#)

PoC with the goal to develop and train an agent to optimize internet traffic. The agent will make better routing decisions to reduce congestion and minimize dropped packets. Check out the full presentation [↗](#).

Machine Synesthesia: Speech recognition through computer vision [↗](#)

Keyword speech detection model, that uses Spectrograms to classify voice recordings, therefore using images to "listen" to recordings - an example of Synesthesia. The model was trained on the spoken digits dataset.

Tolkien style language generation [↗](#)

A language generation model based on the work of the great J.R.R Tolkien's legendarium including: The Silmarillion, The Lord of the rings and the Hobbit.