

Houssem Eddine Bayoudha

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Machine Learning Engineer / Data Scientist

EXPERIENCE

University of Passau
Machine Learning Research Intern Feb 2024 - Sept 2024 (Expected),
Passau, Germany

- Innovative Reinforcement Learning for Hybrid Energy Systems**
- Designing a cutting-edge reinforcement learning model to optimize power distribution in Hybrid Energy Storage Systems (HESS), integrating renewable energy sources such as solar and wind.
 - Pioneering novel algorithms and approaches to enhance energy efficiency and system performance.
 - Co-authoring a scientific paper based on the research findings, detailing the methodology and results for publication in a peer-reviewed journal.

Real Analytics
Data Scientist Jun 2023 - Oct 2023, Liverpool,
England · Remote

- Advanced Reinforcement Learning and Data Management**
- Engineered a TorchLightning data module to streamline data handling and optimize reinforcement learning workflows.
 - Implemented the Soft Actor-Critic (SAC) algorithm in online settings, collecting and analyzing data for robust model testing.
 - Developed and trained a CQL-SAC policy model in offline scenarios, achieving competitive performance compared to leading libraries like D3RLPy and CleanRL.

Magaztee
Machine Learning Engineer Jul 2022 - Nov 2022, Tunisia, Remote

- Model Development and Optimization**
- Led the design and optimization of a Convolutional Neural Network using PyTorch, enhancing model accuracy for classification tasks.
 - Employed Alumentations for comprehensive data cleaning and augmentation, improving model performance and generalization.
 - Deployed the model for a major French telecommunications provider, demonstrating practical application and impact.

Real Analytics
Data Science Intern Jun 2022 - Dec 2022, Liverpool,
England · Remote

- Soccer Data Analysis and Predictive Modeling**
- Developed a pipeline for standardizing soccer tracking data from multiple providers.
 - Created a predictive model to determine player positions using generated heatmaps, contributing to strategic insights in soccer analytics.

EDUCATION

Esprit **Tunisia**
Engineering Degree in Computer Science
Specialization: Data Science

El Amal High **Fouchana, Tunisia**
School
Baccalaureate in Computer Science
Rank: 9th Nationally

SKILLS

Data Science: Pandas - NumPy - Matplotlib - Seaborn - Plotly - Scikit-learn - Gradient-Boosting Algorithms
Deep Learning: TensorFlow - PyTorch - Keras - CNNs - RNNs - GANs - Transformers - GNNs - torchLightning
Reinforcement Learning: OpenAI Gym - DQN - SAC - CQL - Stable Baselines3
DevOps: Docker - Git - Jenkins - Grafana - Prometheus
Data Engineering: Spark - Hadoop - Hive
Database: MySQL - MongoDB
Web: Django - Flask - HTML - CSS
Programming: Python - R - JavaScript

LANGUAGES

- English (C1)
- French (B2)
- Arabic (Native)
- German (A1)

CERTIFICATES

- Machine Learning Specialization: Stanford University and DeepLearning.AI on Coursera
- Deep Reinforcement Learning: Certificate of Excellence from Hugging Face
- Generative AI: From GANs to CLIP with Python and PyTorch on Udemy
- Machine Learning in Production Specialization: Introduction to Machine Learning in Production
- Google Data Analytics Professional Certificate: Foundations: Data, Data, Everywhere