Fay Majid Elhassan

1418 Mbour Km, 2 Rte Mbour -Joal, M'bour

+221776713798 | elhassan@aimsammi.org | Fayelhassan@github.io | github.com/FayElhassan | linkedin.com/in/fay-majid-elhassan/ | Fayelhassan

Personal Profile

Innovative data and AI professional with three IEEE Xplore papers. Experienced in multimodal and Applied Machine Learning, specializing in reinforcement learning for sustainable resilience. Committed to leveraging data and AI to drive positive change and create a lasting impact. Demonstrated leadership in data science projects and a proven mentor, dedicated to guiding others to success. Seeking an internship opportunity in Machine Learning/Data Science.

Education

African Institute of Mathematical Sciences(AIMS)   *M'bour,Senegal*

M.Sc of Machine Intelligence   *Jan 2023 - Current*

- **Courses:** Foundation of Machine learning, Deep Learning, NLP 1, NLP 2 , Computer vision, Reinforcement Learning, Programming for Data Science, Knowledge Representation and Reasoning, Learning Skills through Case Studies, Machine Learning, Statistical Learning

University of Khartoum   *Khartoum, Sudan*

B.Sc. Electrical and Electronic Engineering (Honours)   *Oct 2014 - Oct 2020*

- Published three scientific papers in IEEE Xplore based on the research thesis.
- **Courses:** Nonlinear Systems, Computer-Based Systems, Neural Networks and Fuzzy Logic, Digital Image Processing, Digital Signal Processing, Database & Algorithms, Statistics.

Work Experience

IEEE-SUDAN   *Khartoum, Sudan*

Vice-Chairman   *Oct 2019 - Present*

- Led and initiated a digitization project, overseeing processes such as registration, payments, certificates, and approvals. Managed a team with 70% female participation.
- Pioneered a professional coaching program with a 50% participation rate of women.
- Established the Kids in Technology club, focused on solving SDG problems (Clean Energy, Climate Action, etc.) through technology, with an age range of 8-16.
- Advocated for scientific research integration between academia and industry, organizing field trips to various sectors.
- **Technical Skills:** UI/UX, C++, HTML, CSS, Adobe Illustrator, Adobe Photoshop, Microsoft office, Figma.
- **Soft Skills:** Teamwork, Time Management, Communication, Presentation Skills, Leadership, Design Thinking, Analytical Skills.

STEM-AWAY   *Remote*

Principal/Machine Learning Technical Lead - Summer Internship   *June 2023 - September 2023*

- As ML Lead defined and planned the AI project pipeline along with giving a schedule for the whole project stages as well as held technical sessions.
- Monitored and collaborated with the team in the stage of data collection and EDA ,defined the ML models to be used and distributed workload building a chatbot with integrated recommendation system.
- Promoted to Principal Lead along with the Ml lead had to collaborate and monitor with the Data visualization and the AWS,GPT team to integrate the Ml work and align them in one end product .
- **Technical Skills:** Python (PyTorch, NumPy, Matplotlib, Pandas, Scikit-learn), Streamlit, Tableau, Scripting, AWS Lamda, AWS, Git.
- **Soft Skills:** Teamwork, Time Management, Communication, Presentation Skills, Leadership, Design Thinking, Analytical Skills.

Dal Group   *Khartoum, Sudan*

Data Scientist/Project Manager - Graduate Development Program   *May 2021 - May 2023*

- Collaborated in a team of two on predicting sales for over 200 products (2022) using Python and QGIS. Designed models (Arima/Sarimax/Prophet) to forecast sales per product and conducted benchmarking, achieving an 84% accuracy with Prophet.
- Played a significant role in the main digital transformation project within the Marketing Department. Utilized clustering models (k-means using scikit-learn) to analyze structured and unstructured data, and prepared data for inventory classification. Presented insights through data visualization dashboards.
- **Technical Skills:** Python (PyTorch, NumPy, Matplotlib, Pandas, Scikit-learn), C++, PowerBI, Tableau, Microsoft SQL Server, Scripting, Git.
- **Soft Skills:** Teamwork, Time Management, Communication, Presentation Skills, Leadership, Design Thinking, Analytical Skills.

Publications

CONFERENCE PROCEEDINGS

Comparison of deep reinforcement learning algorithms in enhancing energy trading in microgrids
  Moayad ELamin, Fay Elhassan, Mahmoud A Manzoul
  2020 International Conference on Computer, Control, Electrical, and Electronics Engineering (ICCCEEE), 2021

Enhancing Energy Trading Between Different Islanded Microgrids A Reinforcement Learning Algorithm Case Study in Northern Kordofan State
  Moayad ELamin, Fay Elhassan, Mahmoud A Manzoul
  2020 International Conference on Computer, Control, Electrical, and Electronics Engineering (ICCCEEE), 2021

An Economic Evaluation of Islanded Microgrids Implementation in Northern Kordofan State
Fay Elhassan, Moayad ELamin, Mahmoud A Manzoul
2020 International Conference on Computer, Control, Electrical, and Electronics Engineering (ICCCEEE), 2021

University Projects

Harnessing AI for Sustainable Agriculture and Climate Adaptation:Reinforcement Learning Approach
M'bour,Senegal

AIMS-Senegal
July 2023 - August 2023

- Analysing data of weather,heat,lighting for cherry tomato .
- Study and implement discrete and continuous action space environments to explore various RL algorithm in the maximizing and obtaining the optimal policy.
- Specific case studies were taken for water level ,heat and light.
- **Technical Skills:**Python (PyTorch, NumPy, Matplotlib, Pandas), gym, Stablebaseline, Tensorboard, Reinforcement Learning, Overleaf, LaTeX.
- **Soft Skills:** Time Management, Analytical Thinking, Presentation skills, Report writing.

Enhancing Energy Trading in Microgrids in Northern Kordofan-A Reinforcement Learning Approach
Khartoum,Sudan

University of Khartoum
Dec 2018 - Oct 2020

- Defined three Villages in Northern Kordofan and built microgrid simulation using Matlab/Simulink and inputting data obtained from Ministry of Energy(Renewable energy).
- Designing the Rl environment ,Reward Function among the microgrids and balancing the supply and demand between the three microgrids one being the main one and tried various DRL (DDPG,PPO,VPG).
- Obtaining an Economic Evalution for the microgrids and ROI to 22% within less than 10 years
- **Technical Skills:** Matlab, SIMULINK, PVSYST, git, Python (PyTorch, NumPy, Matplotlib, Pandas, Scikit-learn), Seaborn, Tensorflow, Reinforcment Learning, Overleaf
- **Soft Skills:** Presentation skills, Risk management, Research , Report writing, Logical Thinking, Critical Thinking.

Skills

Programming	Python (Pandas, PyTorch, NumPy, Scikit-learn, etc.) - Advanced, R(ggplot2) - Intermediate, PHP - Intermediate, C/C++ - Intermediate, HTML/CSS - Intermediate, JavaScript - Intermediate, Postgresql - Intermediate, PyTorch - Advanced, TFLite - Intermediate, OpenAI Gym - Intermediate, Matplotlib - Advanced, Seaborn - Advanced
Miscellaneous	Google Cloud - Intermediate, Matlab - Intermediate, SAP - Intermediate, AWS Sagemaker - Intermediate, AWS - Intermediate, Power BI - Intermediate, LaTeX(Overleaf/R Markdown) - Advanced, Tableau - Intermediate, Figma - Intermediate, Git - Intermediate
Soft Skills	Leadership - Advanced, Analytic thinking - Advanced, Project Management - Advanced, Crisis Management - Advanced, Work under Pressure - Advanced, Time Management - Advanced, Teamwork - Advanced, Problem-solving - Advanced, Documentation - Advanced, Engaging Presentation - Advanced, Design Thinking - Advanced

Achievements

2021	**Above Traget**, Project Management Professional(PMP)		*Egypt*
2022	**Certified Application Associate**, SAP Analytics Cloud-Planning		*Sudan*
2022	**Certified Application Associate**, SAP Analytics Cloud		*Egypt*
2022	**Certified Associate**, SAP Activate Project Manager		*Egypt*
2022	**Certified Application Associate**, Business Process Integration with SAP S/4HANA 2020		*Sudan*
2022	**Certified Application Associate**, Reporting, Modeling and Data Acquisition with SAP BW/4HANA 2.x		*Sudan*
2022	**Elite**, SAP Young Professional Program		*Sudan*
2022	**Elite**, Google Data Analytics Professional Certificate		*Coursera*

Interests

Art	I have always enjoyed writing poetry since I was a child. throughout the years my writing expanded and looking to expand to blogs.
Swimming	I started swimming when I was 12. Going through submerged things while holding my breath was the most exciting part.

Languages

English	Professional proficiency IELTS Band 7.5
Arabic	Native proficiency

References are available upon request.