Ahmed Ali

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Education

2022 – 2023
Edinburgh,
United Kingdom

MSc Operational Research With Data Science
University of Edinburgh

- Metaheuristic Natural Algorithm Analysis: Explored natural algorithms for optimization problems and analyzed the performance of metaheuristic algorithms.
- Operational Research Prediction of EV chargers Location: Used linear programming techniques to predict optimal locations for EV chargers in Dundee, Scotland, based on population density, travel patterns, and infrastructure.
- The Office AI-driven Analysis and Script Generation using GPT 3.5: Investigated the effectiveness of GPT 3.5 language model for analyzing and generating scripts for "The Office" TV show.
- Reinforcement Learning: Analysis and Implementation MDP's to DDQN: Focused on reinforcement learning techniques, analyzed the performance of MDPs and DDQNs in solving tasks, and compared their effectiveness.
- Exploring the Interaction between Peri-Personal Space and Multisensory Integration through Computational Neural Modeling: Used computational neural modeling to investigate the interaction between multisensory integration and the perception of peri-personal space, and how mental illness and plasticity can impact this interaction.
- Computational Modeling and Comparison of Single and Differential Learning Rates, Inverse Temperatures and Salience of Probability of Aversive Stimuli in a Probabilistic Reversed Reinforced Learning Task: Compared different computational models of learning in a probabilistic reversed reinforcement task, investigating their effectiveness in predicting human behavior.

2020 – 2021
Ithaca, NY, USA

Diploma Public Sector Leadership
Cornell University

- Learning aspects of public service, including policy analysis, public management, and governance. Through a combination of classroom instruction, case studies, guest speakers, and real-world projects. Acquiring a strong foundation in public policy, management, budgeting, and ethics, enabling to effectively address pressing issues and implement innovative solutions in the public sector. Benefit from a wide range of courses that draw from various disciplines, such as economics, political science, sociology, and law, providing a holistic understanding of public sector dynamics. Engage in hands-on projects, internships, and fieldwork opportunities. Access a vast network of alumni, faculty, and professionals working in the public sector, facilitating collaboration, mentorship, and career advancement.

2018 – 2022 State College, PA, USA	**B.Sc Double Major Data Science and Statistics** *Pennsylvania State University* • Refining Coarse Projected Precipitation Mapping Using Statistical Downscaling by ConvLSTM-Sr Architecture: This paper presents a statistical downscaling approach based on the ConvLSTM-Sr architecture to improve the accuracy of coarse projected precipitation maps by refining them at a higher resolution. The study analyzes the performance of the proposed method and compares it with other downscaling techniques.

Professional Experience

05/2021 – 12/2021 State College, USA	**Research Assistance** *Pennsylvania State University Statistics Department* During my internship at Penn State University's Department of Statistics, I had the opportunity to work on a unique project that combined my passions for statistics, data science, and machine learning. I was tasked with developing an MVP (Minimum Viable Product) for a book that aimed to teach statistics through the lens of these cutting-edge fields. I worked closely with my mentors in the department to understand the latest trends and developments in the field, and used this knowledge to create a book that would be relevant and engaging for students. I was responsible for conducting research, writing and editing the content, and using my technical skills to design the book's layout and visual aids.
07/2022 – 08/2023 Dubai, UAE	**Data Science Consultant - Graduate Trainee** *Ministry of Cabinet Affairs PMO* During my internship at the Ministry of Cabinet Affairs PMO in Dubai, I was given the opportunity to develop an MVP (Minimum Viable Product) for the policy evaluation of national level government policies. My role involved working closely with the government officials to understand their requirements and design a system that would effectively evaluate the impact of various policies on the citizens. I used my technical skills in AI and ML development to build a program that would assist the policymakers in making informed decisions. I was responsible for conducting research and analyzing data to determine the best approach for the MVP. I collaborated with a team of experts to design a user-friendly interface and ensure that the platform met all the necessary security standards. Through this experience, I gained a deeper understanding of the workings of the government and the importance of evidence-based policymaking.

Skills

Programming Language Python/R/C++/Java	● ● ● ● ●	**DataBase Management** MySQL/PostgreSQL/MongoDB	● ● ● ● ○
IDE PyCharm/VScode/Jyupter Notebook	● ● ● ● ○	**Cloud Hosting** AWS/Microsoft Azure	● ● ● ○ ○
Data Management OpenCV/Pandas	● ● ● ● ○	**Modeling** Tensorflow/PyTorch	● ● ● ● ○
Model Management Cesius/AWS Sagemaker	● ● ● ○ ○	**Model Deployment** Docker	● ● ● ● ○

Technical Summary

Machine Learning ● ● ● ● ●
Regression/K-Means/PCA and t-SNE/Forest
Regressor Model and Decision Trees/Naïve Bayes/
DBSC

Deep Learning ● ● ● ● ○
Computer Vision/Image
Processing/NLP/Predictive Modelling and
Forecasting

Reinforcement Learning ● ● ● ● ○
MDPs/Q-Learning/Policy
Gradient/REINFORCE/DPG/DDQN

**Statistical Programming and
Computing** ● ● ● ● ○
Computational Analysis/Large Scale Optimization

Data Visualization ● ● ● ● ○
Tableau