Abdulrahman Hassan

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Education

2019 – 2024	**B.Sc. Computer and Communication Engineering,** *Mansoura University, GPA: 3.56.* ⧉ • Thesis: Autism Spectrum Disorder Classification using Eye Tracking with Convolutional Neural Networks (CNNs).

Projects

Autism Spectrum Disorder Classification ⧉

- Streamlined preprocessing, segmentation, and scaling of a dataset of over 800 samples to prepare for training.
- Developed a convolutional neural network, achieving a classification accuracy of 100%.
- Mitigated overfitting by using regularization techniques and tuning hyperparameters, boosting accuracy by 5%.
- Boosted model interpretability through the use of a confusion matrix, reducing false negatives by 15%.

Product Cost Prediction ⧉

- Merged and processed 3 diverse datasets with over 38,000 records for efficient training and testing.
- Efficiently managed outliers and implemented strategic data imputation, boosting model accuracy by 7%.
- Identified critical cost drivers by visualizing key feature-target correlations, improving prediction accuracy by 5%.
- Achieved a root mean square error of 53.2 by systematically optimizing hyperparameters for regression models.

Book Price Estimation ⧉

- Cleaned a dataset of 6,822 book entries, ensuring proper handling of missing values.
- Implemented multiple machine learning algorithms, achieving a root mean squared error (RMSE) of 6.2.
- Applied feature engineering by creating new features improving model performance by 7%.

Pima Indians Diabetes Classification ⧉

- Preprocessed, split, and cleaned a dataset of 768 patient samples, handling missing data and class imbalances.
- Leveraged advanced visualizations to interpret key features improving model clarity by 6%.
- Ensembled machine learning algorithms to predict diabetes risk, achieving a model with 80%.

Volunteering and Student Activities

2022	**HR Account Supervisor,** *CAT Reloaded Team* • Managed HR Account operations, ensuring compliance and improving processes. • Mentored and supported HR members, fostering teamwork and collaboration. • Resolved member-related issues to align HR strategies with business goals.
2021	**Artificial Intelligence Circle Member,** *CAT Reloaded Team* • Contributed to machine learning and deep learning projects, applying AI techniques. • Engaged in team discussions and workshops, collaborating on ideas and solutions. • Contributed to data cleaning, pre-processing, and model development.

Skills

Programming Languages: Python, SQL, C++
Machine Learning & Deep Learning: Scikit-learn, TensorFlow, Keras, PyTorch, XGBoost, LightGBM
Data Analysis & Visualization: Pandas, NumPy, Matplotlib, Seaborn
Soft Skills: Leadership, Communication, Teamwork, Self-Learning, Presentation, Negotiation

Certificates

2024   **SQL Associate,** *Datacamp* ⧉
- Managed and queried databases using SQL for effective data analysis.
- Optimized SQL queries, focusing on SELECT, JOIN, and GROUP BY operations.
- Worked with relational databases to improve data processing and efficiency.

2023   **AI Programming with Python Nanodegree,** *Udacity* ⧉
- Used Python for AI programming, focusing on model development and algorithms.
- Engineered machine learning models with libraries like NumPy and Scikit-learn.
- Gained experience in neural networks and deep learning techniques.

Languages

English — Fluent   **Arabic** — Native/Bilingual