

Shawal Latif

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EDUCATION

COMSATS University Islamabad, B.S. in Electrical Engineering | 3.07

09/17 – 06/21

- **Notable Classes:** Object Oriented Programming, Power Electronics, Linear Algebra, Embedded Systems, Signal Processing, Probability and Statistics
- **Teaching Assistant** for Object Oriented Programming, Linear Algebra, and Probability and Statistics

Technical Skills

- Programming Languages: R, Python, SQL, CSS, HTML, JavaScript, Julia
- Libraries and Software Frameworks: TensorFlow, Pandas, PyTorch, NumPy, PyMC3
- Analytical and Visualization Tools: Power BI, Tableau, Advanced Excel, Matplotlib

EXPERIENCE

Remote Research Intern @ L2Opt Group w/ Prof. Zhiguang Cao

03/24 – Now

Singapore Management University

- Conducting thorough literature reviews to identify and address research gaps in Neural Combinatorial Optimization
- Applying Reinforcement Learning including LLM, to tackle complex optimization problems

Lab Engineer @ ERC

08/21 – 07/23

COMSATS University

- Conducted labs for Object Oriented Programming, Machine Learning and Generative A.I
- Used Python, Jupyter Notebook and MATLAB for effective execution of lab experiments and facilitating students' hands-on learning experience
- Authored a comprehensive Lab Manual for OOP, M.L and NLP

PROJECTS

Revenue Insights Project | Power BI, Excel

- I created a dashboard using Power BI that can understand the cause of the loss in the market share and revenue using the available data.
- With the created dashboard, the revenue team can gain insights about their revenue trend.

Grocery Store Management System | HTML, JavaScript, Python, MySQL

- Built a grocery store management system using HTML, CSS, Bootstrap as frontend, Python as backend, MySQL as a database, and GitHub as a version control system to maintain the codebase.
- This system can help in automating the orders and inventory management process of the store.

Medical Data Extraction | OpenCV, pytesseract

- I Built a document extraction backend that can help in automating data capturing process.
- This system can auto-extract important fields from patient details and medical prescriptions.

Sales Insights for consumer Business | Pandas, MySQL, Matplotlib

- I Built a sales insight solution that can help bring data informed decision making in the organization, minimizing the operation cost.
- Data cleaning and transformation was done using NumPy, and Pandas while Matplotlib was used for data visualization.

Healthcare Data Quality Enhancement Project | Tableau, SQL, Python

- Enhanced the reliability of healthcare data, prioritizing patient records and treatment outcomes
- Utilized SQL queries and Python scripts for data cleansing, tackling inconsistencies and incomplete entries in healthcare datasets
- Conducted data aggregation and preprocessing tasks, focusing on cleaning and standardizing large datasets
- Collaborated with healthcare experts, to incorporate clinical insights into the data analysis process
- Crafted captivating, user-friendly dashboards using Tableau, enhancing data visualization and making predictions and trends more accessible to healthcare staff