SARA ALLALI

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EDUCATION

Chapman University Orange, CA
Masters of Science in Computational and Data Sciences Aug. 2023 - May 2025
Coursework: NLP, Deep Learning, Statistical Machine Learning, Time Series, Multivariate Data Analysis
Chapman University Orange, CA
Bachelors of Arts in Psychology, Minor Analytics Aug. 2020 - May 2024
Coursework: Database Management, Business Analytics, Data Science, Data Structures and Algorithms

SKILLS

Programming & Tools: Python, R, SQL, Java, C++, HTML/CSS/Javascript, Excel, Salesforce, QGIS, Alteryx, Power BI, Tablea
Libraries & Frameworks: Scikit-learn, TensorFlow, Keras, Statsmodels, SHAP, SMOTE, Pandas, NumPy, dplyr, tidyverse, NLTK, spaCy, LSTM, CNN, Transformers, Matplotlib, Seaborn, GGplot

EXPERIENCE

Chapman University, Orange, CA October 2023 - May 2025
Data and Systems Analyst Assistant

- Cleaned and analyzed data to ensure accuracy and support data-driven decision-making.
- Developed interactive Power BI dashboards to enhance strategic insights for leadership.
- Assisted in survey design for campus-wide research, enabling insights into student experiences.
- Ensured data integrity through validation and collaboration; supported ad hoc projects as needed.

PROJECTS

Predictive Model for Neonatal Sepsis Detection | SQL, R, SMOTE, SHAP, Project Link

- Built a machine learning model to identify neonatal sepsis using clinical and lab data. Achieved ROC of 0.93 and 99.8% sensitivity. Applied SMOTE to address class imbalance, improving specificity to 40.1%. Used SHAP analysis for feature interpretation and model refinement.

Profit Analysis and Departmental Insights | SQL, Power BI,DAX, Project Link

- Analyzed departmental profitability and resource allocation. Merged multi-table datasets to assess budgets, salaries, and project revenues. Built an interactive dashboard to visualize salary distributions, project status, and department-level financial performance.

Multimodal AI for Radiology | Python, NLP, PyTorch, transformers, Project Link

- Developed a deep learning model integrating chest X-ray images and radiology reports using CLIP/BLIP for automated captioning and clinical Visual Question Answering (VQA) on the MIMIC-CXR dataset, enhancing diagnostic support through multimodal learning.

Eye Disease Classification Using Deep Learning | Python, TensorFlow, Project Link

- Built a CNN to classify retinal images into Normal, Diabetic Retinopathy, Cataract, and Glaucoma using ~1000 images per class, leveraging deep learning for accurate disease prediction.

LEADERSHIP AND INVOLVEMENT

Career Fair Support, Chapman University (Spring 2024, Fall 2024, Spring 2025)

- Worked alongside the team to coordinate and support the organization of one of the university's largest career fairs, facilitating employer-student engagement and ensuring event execution.

Giving Day Photoshoot Participant, Chapman University (Annual Giving Programs)

- Participated in promotional photoshoots for Chapman University's Giving Day, contributing to marketing efforts that support fundraising and engagement initiatives.