

Rao Hamza Ali

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SKILLS

Tools: TensorFlow, NLTK, spaCy, AWS, Google Cloud Platform, scikit-learn, Git, MongoDB, Neo4j

Languages: Python, R, SQL

EXPERIENCE

International Space Station Archaeology Project

Jan 2020 - Present

Graduate Research Assistant

Orange, CA

- Explored computer vision techniques for identification of astronauts in photos taken inside the ISS.
- Implemented deep neural networks to classify modules photographed in ISS images.
- Wrote research paper on astronaut face identification using Amazon's Machine Learning API (under review).
- Provided useful insight to space archaeologists, by querying image data, regarding social interactions on the ISS.

Chapman University

Sept 2018 - Present

Graduate Research Assistant

Orange, CA

- Authored 4 peer-reviewed research papers (+4 under review) on machine learning applications in software, images, art, and music.
- Provided expertise in machine learning and NLP applications to industry professionals for practical usage.
 - Used word vectors and t-SNE visualization to show clusters generated in unstructured text data.
 - Compared ML models in their ability to predict a metric using multiple dependent variables.
- Trained undergraduate students on using TensorFlow and NLTK and guided them through data gathering and modeling processes.
- Applied word-embedding models to paintings and music to generate fingerprints for artists, using a novel approach.
- Designed scripts in Python to scrape study related data from Twitter, Google Maps, and news websites.

Chapman University

Sept 2019 - Present

Graduate Teaching Assistant

Orange, CA

- Taught Database Management course covering relational databases, SQL, NoSQL databases, and GCP instances.
- Taught upper-level Data Science course and instructed students on regression models, optimization and clustering algorithms, and data preparation and pre-processing techniques.

Afiniti

Jun 2011 – Jun 2014

Analyst Trainee

Karachi, Pakistan

- Applied regression and statistical models to boost call center agent performance.
- Designed integration tools to pull data from multiple sources using SQL scripts and big data installations.
- Handled Sprint and Rogers accounts and played key role in improving their annual profits through optimized models.

EDUCATION

Chapman University

Orange, CA

Ph.D. Computational and Data Sciences

May 2022

- Research focus: AI techniques in the interchange of art and music
- Relevant coursework: Data Mining, Machine Learning, Natural Language Processing, Signal Processing

B.S. Computer Science

May 2018

- Magna cum laude, 3.89 GPA
- Member of Chapman Robotics and Schmid College Leadership Council

INTERESTS

Generative Art; Origami; Soccer