Sulaeman Aloradi

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EDUCATION

[04/2023 – Current] **Master of Science in Computer Science**

Bonn University

City: Bonn | **Country:** Germany

[09/2018 – 06/2022] **Bachelor of Science in Computer science**

King Abdulaziz university

City: Jeddah | **Country:** Saudi Arabia | **Final grade:** 4.66 out of 5 (Excellent) | **Thesis:** Recommendation System for Educational Material Quality Assessment

Experience

Project 1: Implementation of a Speak Function for Robot Communication

- Engineered a natural language speak function for the RoboCup robot using Python, enabling extended conversational interactions by preventing repetitive short utterances and implementing robust validation checks.
- Integrated context-aware response generation to maintain dialogue coherence, improving the robot's ability to sustain long-form conversations.
- Designed a sanity check module to validate responses for relevance and logical consistency, reducing errors during human-robot interactions.
- Technologies: Python, ROS2 (Robot Operating System), NLP techniques, Large Language Models (LLMs).

  Link: https://github.com/Sulaiman-Nedal/LLM-based-Communication-Agent-for-Human-Robot-Interaction

Project 2: Fine-grained Fact Verification with Kernel Graph Attention Network

- Leveraged the KGAT model to classify scientific claims, achieving a 3% improvement (from 71% to 74%) in labeling accuracy, and a 1% improvement (from 69% to 70%) in FEVER Score. This was inspired by the research paper "Fine-grained Fact Verification with Kernel Graph Attention Network".
- Applied tokenization, stemming, and lemmatization using NLTK for model training.
- Used TF-IDF vectorization to enhance feature extraction.
- Trained using multiple classification models, including Logistic Regression, Naive Bayes, and SVM.

  Link: https://github.com/Sulaiman-Nedal/KGAT

Project 3: Text Summarization Tool with Extractive and Abstractive Methods

- Deployed a web application for text summarization, employing both extractive and abstractive techniques to summarize texts.
- Leveraged NLTK for sentence and word tokenization, stop word removal, and stemming to prepare text data for summarization tasks.
- Utilized Scikit-learn for TF-IDF vectorization to identify features for extractive summarization.

- Enhanced extractive summarization with the TextRank algorithm (via NetworkX) and integrated tokenized data into the BART transformer model for abstractive summarization, producing coherent and concise summaries.

  Link: https://github.com/Sulaiman-Nedal/text-summarization-tool

SKILLS

- **Technical Skills:** Python (Pandas, NumPy, Scikit-learn, Matplotlib, Seaborn, NLTK), Java, SQL, Git, Github, Jupyter Notebooks, Google Colab.
- **Soft Skills:** Analytical thinking, problem-solving, adaptability, teamwork, enthusiasm for new technologies.
- **Language Skills:** English (Fluent), German (Beginner).