

## Project Title: AI-Based Scoring of Arabic Essays

### Project Description:

Use AI to assess students' writing skills, as part of NUMUe (Arabic Education AI Assistant)

**Project Type:** Research

### Internship Batch: Batch 1 (preferred)

- **Batch 1:** May 10 to July 9, suitable for Education City students, i.e., CMUQ, TAMUQ and HBKU students
- **Batch 2:** May 31 to July 23, suitable for QU university students

### Duties/Activities:

- **Data Preprocessing:** Collect and clean sample student-written Arabic essays to be used for training or benchmarking.
- **Model Development:** Experiment with prompting or fine-tune Large Language Models (LLMs) or BERT-based architectures (like AraBERT) for automated scoring.
- **Rubric Mapping:** Collaborate with linguists to translate qualitative grading rubrics into quantitative features for the AI model.
- **Evaluation:** Conduct error analysis to identify biases in AI scoring and improve model reliability across different proficiency levels.

### Required Skills:

- **Programming:** Proficiency in Python and familiarity with libraries like PyTorch, TensorFlow, or Hugging Face Transformers.
- **NLP Fundamentals:** Understanding of tokenization, word embeddings, and sequence-to-sequence models.
- **Linguistic Knowledge:** Strong command of the Arabic language (Modern Standard Arabic) to evaluate the nuances of student writing.
- **Tools:** Experience with Git/GitHub for version control and Jupyter Notebooks for research documentation.

**Preferred Intern Academic Level:** Senior Undergraduate students in Computer Science, Computer Engineering, or Data Science.

### Learning Opportunities:

- **Real-world Impact:** Gain experience building AI tools that directly support Arabic education and literacy.

- **Research Publication:** Potential to contribute to research papers and attend technical workshops related to Arabic NLP.
- **Mentorship:** Work closely with senior researchers and engineers from QCRI.

**Expected Team Size:** 3-4

### **Mentors**

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