

Abrar Abir

+97466238277 | abir@cmu.edu | abrar-abir.github.io

EDUCATION

CARNEGIE MELLON UNIVERSITY

B.Sc. in **Computer Science**

Concentration in **Security & Privacy**

Graduated in **Dec 2025**

SKILLS

LANGUAGES

Python • Java • C • JavaScript • SML

FRAMEWORKS

React • Flask • FastAPI • Tailwind CSS

TOOLS

PostgreSQL • ChromaDB • CPLEX

COURSES

- Natural Language Processing
- Prompt Engineering (Graduate level)
- Usable Privacy & Security
- Privacy Policy, Law & Technology

ENGAGEMENT

- **MEMBER, ROBOTICS CLUB**
Executive Member, Fall 2022
President, Spring 2023
- **MEMBER, CHESS CLUB**
Even Organizer, Fall 2021 - Spring 2023
- **5TH PLACE HOLDER**
Qatar National CTF Competition 2023
- **64TH PLACE HOLDER**
Putnam Math Competition 2023
- **WINNER, PROGRAMMING CONTEST**
Qatar Collegiate Programming Contest
- **LOGO DESIGNER**
School of Computer Science, CMU-Q
- **MEMBER, CMUQ CRICKET TEAM**
Runner Up, Education City Tournament

PROJECTS

- **CLICKBAIT DETECTION | PYTHON**
Fine-tuned BERT to detect Clickbait from content title with 86.6% accuracy
- **LANGUAGE IDENTIFICATION | PYTHON**
n-gram model for multinomial regression to identify 6 linguistically close languages
- **SAFE INTERPRETER | C**
A web server supporting query for safe interpretation of scripting language
- **SANDBOX ENFORCER | C**
A runtime enforcement of a system call sandbox policy using Pintools

INTERNSHIP

SIDRA MEDICINE RESEARCH DIVISION, DOHA, QATAR

Full Stack Developer, Biomedical Informatics Core | May 2024 - Present

- Led development of integrated web-based platform for genomic data management across research workflows, national genomic initiatives and clinical diagnostics
- Designed real-time sequencing quality intelligence system across multiple sequencing platforms to identify technical issues and improve turnaround times
- Harmonized genomic and sample metadata across multiple cores, establishing FAIR-aligned data stewardship principles to support dataset interoperability

PUBLICATION

LARGE TRAIT-BASED DATASET FOR ARABIC AUTOMATED ESSAY SCORING

Bashendy et al. *LAILA: A Large Trait-Based Dataset for Arabic Automated Essay Scoring*, arXiv:2512.24235.

In *Proceedings of 2026 EACL Conference*, March 2026, Rabat, Morocco

PROPAGANDIST TECHNIQUE DETECTION IN ARABIC AT ARAIEVAL TASK 01

Abir et al. *Nullpointer at ArAIEval Shared Task: Arabic propagandist technique detection with token-to-word mapping in sequence tagging*, arXiv:2407.01360.

In *Proceedings of 2024 ArabicNLP Conference*, August 2024, Bangkok, Thailand

MULTILINGUAL SUBJECTIVITY DETECTION AT CHECKTHAT! LAB TASK 02

Biswas et al. *Nullpointer at CheckThat! 2024: identifying subjectivity from multilingual text sequence*, arXiv:2407.10252.

In *Proceedings of 2024 CLEF Conference*, September 2024, Grenoble, France.

SYNERGY-OPTIMIZED BID GENERATION ALGORITHM IN TRANSPORTATION

Hasan et al. *Advanced synergy-driven algorithms for bid generation in transportation auctions*, DOI: 10.1007/s10479-025-06492-0.

In *Annals of Operations Research*, 2025, Volume 347, pages 1339–1384

RESEARCH

AUTOMATED SCORING OF ARABIC LANGUAGE WRITING PROFICIENCY

Qatar National Research Fund | March 2025 - Dec 2025

A joint research project leveraging NLP & education to build the first automated system in the Arab region to evaluate students' Arabic writing proficiency across multiple dimensions, similar to standardized English exams like IELTS and TOEFL.

HYBRUSH: A HYBRID UAV BRUSHING SYSTEM FOR PV CLEANING

Undergraduate Research Experience Program | Jan 2023 - May 2024

An interdisciplinary research project focused on developing an Unmanned Aerial Vehicle (UAV) system for the dry cleaning and real-time monitoring of photovoltaic (PV) cells, integrating robotics with reinforcement learning.

SURVEY OF INTERNET-CONNECTED CAMERA SYSTEMS IN QATAR

Research Assistant | Jan 2023 - May 2023

An IoT security research project for assessing the vulnerabilities of internet connected video camera systems - by analyzing port scanning data, identifying exposure and cross-referencing vulnerabilities with the CVE database.

MENTORSHIP

ACADEMIC RESOURCE CENTER, CMU-Q

Course Assistant | Jan 2022 - May 2024

Courses: Concepts of Mathematics, Principles of Computing, Fundamentals of Programming & Computer Science, Great Theoretical Ideas in Computer Science, Parallel & Sequential Data Structures & Algorithms

Held tutoring sessions & coding interviews, and graded assignments.