

Abrar Abir

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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
- 644TH 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.