

Abrar Abir

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

EDUCATION

CARNEGIE MELLON UNIVERSITY
B.Sc. in Computer Science
Concentration in **Security & Privacy**
Expected Graduation in **Dec '25**

SKILLS

LANGUAGES
Python • Java • C • JavaScript • SML
FRAMEWORKS
React • Flask • Tailwind • Nextflow
TOOLS
Git • Bash • \LaTeX • Singularity
PostgreSQL • ChromaDB • CPLEX

COURSES

- Natural Language Processing
- Prompt Engineering
- Introduction to Computer Security
- Introduction to Cryptography
- Software Foundations of Security
- 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
Pizza & Programming Contest
- **MEMBER, SCOTTY SQUAD**
Co-Designing new UI of Scotty
- **LOGO DESIGNER**
School of Computer Science, CMU-Q
- **ORIENTATION LEADER**
Class of 2026 Orientation
- **EVENT VOLUNTEER**
Arab Collegiate Programming Contest
MindCraft, CMU-Q Experience
- **MEMBER, CMUQ CRICKET TEAM**
Runner Up, Education City Tournament

INTERNSHIP

SIDRA MEDICINE RESEARCH DIVISION, DOHA, QATAR
Full Stack Developer, Biomedical Informatics Core | *Summer 2024 - Summer 2025*
- Developed frontend UI for dashboard with datatable and dynamic plots
- Developed API server and database with Authentication & Authorization
- Designed pipeline for automated file processing, integrity checking and storage

PUBLICATION

PROPAGANDIST TECHNIQUE DETECTION IN ARABIC AT ARAI EVAL TASK 01
Abrar Abir, Kemal Oflazer , Nullpointer at ArAIEval Shared Task: Arabic propagandist technique detection with token-to-word mapping in sequence tagging, in Proceedings of 2024 ArabicNLP Conference, August 2024, Bangkok, Thailand. arXiv preprint arXiv:2407.01360.

MULTILINGUAL SUBJECTIVITY DETECTION AT CHECKTHAT! LAB TASK 02
Md Raful Biswas, Abrar Abir, Wajdi Zaghouani , Nullpointer at CheckThat! 2024: identifying subjectivity from multilingual text sequence, In Proceedings of Conference and Labs of the Evaluation Forum (CLEF), September 2024, Grenoble, France. arXiv preprint arXiv:2407.10252.

RESEARCH

AUTOMATED SCORING OF ARABIC LANGUAGE WRITING PROFICIENCY
Qatar National Research Fund | *April 2025 - Present*
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 | *Spring 2023 - Spring 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 | *Spring 2023*
An IoT security research project supervised by Dr. Ryan Riley, focused on assessing the vulnerabilities of internet-connected video camera systems streaming in real time- by analyzing port scanning data, identifying exposed camera systems and cross-referencing security weaknesses with the CVE database.

MENTORSHIP

ACADEMIC RESOURCE CENTER, CMU-Q
Course Assistant | *Spring 2022 - Spring 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.

PROJECTS

- CLICKBAIT DETECTION | PYTHON**
Fine-tuned BERT model 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