Sabah Shahnoor Anis

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SUMMARY OF QUALIFICATIONS

I'm a Master's graduate in Computer Science from the University of South Carolina with a strong focus on Artificial Intelligence and Machine Learning. Over the past two years as a Graduate Research Assistant at the Artificial Intelligence Institute of UofSC (AIISC) and the Laboratory for Integrative Neuroscience Analysis (LINA), I've developed expertise in building AI/ML pipelines, deep learning models, and advanced data analysis workflows.

SKILLS

- Proficient in advanced Python programming and familiar with Java, C/C++, JavaScript, C#, MATLAB
- Excellent foundational understanding of architectural concepts and algorithms such as machine learning, deep learning, reinforcement learning, generative AI, large language models, natural language processing, and multimodal AI
- Experienced in AI/ML model development using toolkits: TensorFlow, PyTorch, Numpy, Scipy, Scikit-learn, and Git
- Demonstrated strong capabilities in developing original research agendas in AI/ML research with self-developed code
- Expert in designing experiments, statistical analysis, data processing, management, and analysis of large, complex datasets
- Strong capabilities in problem-solving, creative thinking, formal writing, and presenting research findings

EDUCATION

Master of Science in Computer Science | University of South Carolina — Jan 2023 - Aug 2025
CGPA: 3.61 out of 4.0

Bachelor of Science in Computer Science and Engineering | BRAC University — May 2017 - Dec 2021
CGPA: 3.39 out of 4.0

WORK EXPERIENCE

Graduate Research Assistant — Jan 2023 – Aug 2025

Artificial Intelligence Institute of UofSC (AIISC) | Laboratory for Integrative Neuroscience Analysis (LINA)

- Developed an automated detection and deep learning-based clustering pipeline for rodent Ultrasonic Vocalization (USV) in Post Traumatic Stress Disorder (PTSD) research
- Automated data pre-processing, cleaning, and analysis in multiple projects, such as USV and Sleep Spindle detection and analysis
- Submitted a paper to the Neuroinformatics Journal on Deep Clustering of Ultrasonic Vocalizations
- Paper presented at the 7th International Conference on Advances in Signal Processing and Artificial Intelligence (ASPAI' 2025)
- Taught as a graduate teaching assistant at the SC INBRE Bioinformatics/Data Science Summer Workshops 2025
- Presented a poster on USV Analysis research at the 2024 Discover USC

Research Intern | Artificial Intelligence Institute of UofSC (AIISC) — Jul 2022 – Nov 2022

- Developed skills in data science, machine learning, and data analysis
- Achieved certification for completing a Python course in Mimo

Technical Product Analyst | InsideMaps Inc — Jun 2022 - Nov 2022

- Idiated and designed road maps during product development phases utilizing the Jira Scrum Board
- Tested and validated products for multiple projects using strengths, weaknesses, opportunities, and threats (SWOT) analysis
- Developed and utilized REST APIs as well as designed Mobile App User Interface

● Collaborated in multiple teams consisting of developers, analysts, and managers to complete projects within tight deadlines

ACADEMIC & INDIVIDUAL PROJECTS

Undergraduate Thesis Research | BRAC University May 2020 – Oct 2021
● Developed a model that generates real-time character animation for biped locomotion in Unity ML agents using Reinforcement learning and Imitation learning algorithms
● Published a paper for the thesis research on IEEE Xplore: *https://doi.org/10.1109/ICIEVicIVPR52578.2021.9564143*
Microprocessor Course Project | BRAC University Sep 2019 – Feb 2021
● Designed a hardware sample of a wheelchair (miniature) with integrated software features; the proposed wheelchair is battery-powered and uses an Arduino microcontroller to operate
● Published a paper for the Microprocessor project on Springer: *https://doi.org/10.1007/978-3-030-68452-5_13*
Network Architecture for Scarlet Witch | BRAC UNIVERSITY
● Created a networking architecture with given requirements and restrictions using Packet Tracer, Network Topology Diagrams, VLSM tree & IP table
● GitHub Link - https://github.com/Sabah98/CSE421_Project.git
Online House Rental System | BRAC UNIVERSITY
● Designed a House Rental System which will be accessible online using System Request, Functional-Non Functional Requirements, DFD Diagram, Use Case Diagram, Sequence Diagram, Activity Diagram, Database & MySQL
● GitHub Link - https://github.com/Sabah98/ONLINE-HOUSE-RENTAL-SYSTEM.git
Object Recognition Project | BRAC UNIVERSITY
● For my Introduction to Robotics (CSE461) course, I designed an object recognition and obstacle detection model with the help of Webots software.
● GitHub Link - https://github.com/Sabah98/CSE461_Project.git
Library Management System | BRAC UNIVERSITY
● Designed a small iterative user-friendly system for managing library information, updating information, searching books, etc. using C, COBOL, Java, C++, Turbo Pascal, Visual Basic, PowerBuilder, HTML, Excel & Access
Fire, Gas, Smoke Detector | BRAC UNIVERSITY
● Designed the project to detect gas leaks and fires in the kitchen and other places of the house using an MQ 2 sensor, 2 LEDs, a Buzzer & Arduino Uno microcontroller

PUBLICATIONS

[1] An Efficient Detection and Deep Clustering Based Pipeline for Reliable Rodent Ultrasonic Vocalization Analysis | University of South Carolina, 2025
[2] A Reliable and Efficient Detection Pipeline for Rodent Ultrasonic Vocalizations | ASPAI' 2025
[3] Character animation using reinforcement learning and imitation learning algorithms | ICIEV & icIVPR 2021
[4] An Automated Wheelchair for Physically Challenged People Using Hand Gesture and Mobile App | IHCI 2020

EXTRACURRICULAR ACTIVITIES

● Volunteer | Summer AI Camp for High School Students and AIISC Retreat June, October 2023
● Member | Marketing & IT section at BRAC University Community Service Club 2019-2021
● Volunteer | Blood Donation campaign & educating underprivileged children event, BRAC University Community Service Club 2019
● Player (Center-back) | Football Club of BRAC University 2019-2021
● Runner-up | National Badminton Tournament (Singles) | National Education Board 2015
● Captain | Viqarunnisa Handball Team participating in Friendly Tournament (Nepal) 2013

● Semi-Finalist| Partille Cup Handball Tournament at Gothenburg (Sweden) 2012

HONORS & AWARDS

● Vice Chancellor's Special Recognition Award | Residential Semester, BRAC UNIVERSITY
● 75% Merit Scholarship | Freshman year, BRAC UNIVERSITY
● National Board Scholarship | Higher Secondary School Certificate Examination

REFERENCES

● Dr. Christian O'Reilly, Assistant Professor, Department of Computer Science and Engineering, University of South Carolina, Columbia, South Carolina –christian.oreilly@sc.edu
● Dr. Jia Uddin, Assistant Professor, AI & Big Data, Endicott College, Woosong University, Daejeon, South Korea – jia.uddin@wsu.ac.kr
● Dr. Muhammad Iqbal Hossain, Assistant Professor, Computer Science & Engineering, BRAC University, Bangladesh – iqbal.hossain@bracu.ac.bd
● Faisal Ashraf, Lecturer, Computer Science & Engineering, BRAC University, Bangladesh – faisal.ashraf@bracu.ac.bd