Aaleyah Lewis

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EDUCATION

University of Washington Expected Graduation Date: May 2026
Doctor of Philosophy in Computer Science and Engineering

University of Maryland, Baltimore County (UMBC) Graduated: May 2021
Graduated with Honors: Cum Laude
Bachelor of Science in Computer Science; Minor: Psychology
Merit Scholar, McNair Scholar, LSAMP Scholar, CWIT Affiliate
Coursework: Data Structures; Software Engineering; Algorithms; Operating Systems; Artificial Intelligence

RESEARCH EXPERIENCES

Oak Ridge National Laboratory, *GEM Fellow* June 2021 – August 2021
Skills/Tools: JavaScript/React, Elasticsearch

- Developed web application using JavaScript/React to assist cyber analysts in detecting anomalous behaviors on machines
- Implemented interactive data visualizations (i.e., treemap, collapsible tree) with filtering systems using JavaScript

Stanford University, *Summer Undergraduate Research Fellow* June 2020 – August 2020
Stanford Ocean Acidification Experience
Skills/Tools: Python (Pandas, NumPy)

- Created python script to calculate and collectively summarize tracking data (i.e. head translation, hand translation) of participants during VR experience
- Generated python script to organize summarized tracking data in order to enable easy access

University of Maryland, Baltimore County, *Research Assistant* Sept 2019 – Dec 2019
Sleep Analytics by Analyzing Leg Movements During Sleep
Skills/Tools: Python (Pandas, NumPy), Jupyter Notebook

- Used Python to collect and analyze physiological data (i.e. Blood Volume Pulse, Heart Rate, Accelerometer)
- Used Python to generate graphs that plotted distribution of physiological data
- Designed and implemented algorithm that calculated root mean square (RMS) of physiological data

Cornell University, *LSAMP Research Scholar* June 2019 – August 2019
Leveraging Big Data to Mediate Online Conflicts
Skills/Tools: Python (Pandas, NumPy), Jupyter Notebook

- Developed a chrome extension to mediate conflicts on Reddit using JavaScript and Python
- Detected nuances in language indicative of conflict on Reddit using Natural Language Processing
- Generated and analyzed toxicity scores for comments on Reddit to identify monotonic trends of toxicity within conversations

WORK EXPERIENCES

UMBC, *Resident Assistant* August 2019 – May 2021

- Supervised a university apartment complex of 30 undergraduate students
- Organized monthly events to enhance the social, educational, community and personal development of residents

- Enforced University and Residential Life rules and regulations resulting in a safe and orderly living environment

PRESENTATIONS

Summer 2021	Lewis, Aaleyah. "Developing Interactive Tool to Assist Cyber Analysts in Detecting Anomalous Behavior on Machines" ORNL Research Symposium
Summer 2020	Lewis, Aaleyah. "Virtual Reality in Environmental Education: Investigating the Efficacy of VR as an Educational Tool for Ocean Acidification" Stanford University SURF Research Symposium
Spring 2020	Lewis, Aaleyah. "Conflict Mediation at Scale: Leveraging Big Data to Mediate Online Conflicts" Undergraduate Research and Creative Achievement Day (URCAD)

PROJECT

GritView, *Software Engineering* September 2020 – December 2020

This API provides students with access to data relating to course details, professors, course grades and course evaluations from the University of Maryland, Baltimore County (UMBC). We used python and Flask for the web framework and developed the database using PostgreSQL. Agile Scrum methodology was used throughout this process with 2-week sprints. As a developer for this project, I designed the course endpoint, which had two query parameters (i.e., course name and semester), and returned the course details, professors who taught the course and the grades received in the course.

Wine Quality Assurance November 2019 – December 2019

The goal of this project was to predict wine types qualitatively (i.e., red, white) using binary classification. In addition, I predicted wine quality through the use of regression with a quantitative value ranging from 1-10, inclusively. In order to complete this task, I used Random Forest, Logistic Regression, and Neural Networks for classification methods. For regression methods, I used SGD Regressor, Decision Tree, Linear Regression.

LEADERSHIP

Ronald E. McNair Postbaccalaureate Achievement Scholars Program 2018 – present

- This program is designed to prepare students for graduate studies across all disciplines. As a McNair Scholar, I am involved in a community of diverse scholars who are pursuing a Ph.D. I served as the McNair Ambassador for Recruitment and Special Event where I designed and implemented recruitment efforts to increase student interests and enrollment into the program. In addition, I served as a conference ambassador where I helped plan and host our annual research conference.

Louis Stokes Alliances for Minority Participation (LSAMP) Program 2017 - present

- This program aims to substantially increase the amount of minority students attaining graduate degrees in STEM fields. As a LSAMP Scholar, I have conducted research at my home institution through their fall and spring semester research fellowship programs. I have also participated as a panelist for the 2018 and 2020 LSAMP Summer Bridging Conference which provides incoming freshmen with insight on how to successfully navigate their upcoming academic journeys.

National Society of Black Engineers (NSBE) 2017 – present

- This collegiate organization's goal is to increase the number of culturally responsible Black Engineers who excel academically, succeed professionally and positively impact the community. As an active member of NSBE who desires to give back to my community, I became a mentor to help lowerclassmen navigate their undergraduate careers and prepare for their journeys beyond.

Center for Women in Technology (CWIT) Scholars Program 2017 - 2021

- This program aims to enable success for women and other minorities in STEM fields. As an active affiliate, I was on the CWIT Bites and Bytes committee where I helped to plan an overnight program for high school girls who are interested in pursuing STEM related careers.

BlackcomputeHER Conference 2019

- The BlackcomputeHER Conference is dedicated to supporting Black women in pursuing careers in technology. As a panelist, I spoke about my experience being a Black woman in STEM as well as an undergraduate researcher to encourage young girls to get involved in computing.

SKILLS

Programming: Python, C++, C, JavaScript, HTML/ CSS, SQL, R, RobotC
Software: Terminal, Jupyter Notebook, Autodesk Inventor, Microsoft Office **(**Word, PowerPoint, Excel)
Operating Systems: Mac OS

SCHOLARSHIPS & AWARDS

College of Engineering Dean's Fellowship	2021
GEM Fellowship	2021
ARCS Foundation Fellowship	2021
Paul G. Allen Departmental Fellowship	2021
Lockheed Martin Scholarship	2021
UMBC Undergraduate Researcher of the Week	2020
Cisco Security Business Group Scholarship	2020
Stanford University Scholar Spotlight	2020
Summer Research Institute Fellow	2020
ACM Richard Tapia Scholarship	2020
Georgia Tech Focus Scholar	2019
Lockheed Martin Scholarship	2019
UMBC Undergraduate Research Award Recipient	2019
Grace Hopper Celebration Scholarship	2019
CWIT Affiliate Recognition Award	2018