Ahmed “Ace” Abdulrahman

Github Logo transparent PNG - StickPNGA picture containing text, clipart, vector graphics

Description automatically generatedIcon

Description automatically generated [aka40@duke.edu](mailto:aka40@duke.edu) (571) 426-4348. Durham, NC [linkedin.com/in/ace21](https://www.linkedin.com/in/ace21/) [github.com/Ace-Abdul](http://github.com/Ace-Abdul)

EDUCATION

Duke University Pratt School of Engineering | Durham, NC Aug. 2020 – May 2024

* Intended Majors: Electrical and Computer Engineering, Computer Science
* Leaders for Tomorrow Annexstad Scholar, Hoch Family Scholar, Treacy Family Scholar

PROFESSIONAL EXPERIENCE

**Software Engineer Intern:** [**Code+ 2021**](https://codeplus.duke.edu/projects) – [Home Network Defense Team](https://codeplus.duke.edu/projects/home-network-defense-stingar-project) | Durham, NC June 2021 – Aug.2021

* Undertook 16 weekly trainings in full stack development, UI/UX design, accessibility, presentation delivery, product demonstration, and entrepreneurship.
* Worked in a team of 5 undergrads and 2 professionals to implement cybersecurity measures for remote users. Protected devices of remote users by automating use of pfSense (firewall program) to dynamically block up to 30,000 malicious IP addresses from the [STINGAR](https://stingar.security.duke.edu/) central intelligence feed from accessing users’ networks.
* Fully developed front-end, back-end, and API of global admin interface for authorizing users access to our service; developed back-end database of local user interface for displaying statistics to authorized users; deployed web application on Nginx web server on Ubuntu virtual machine and obtained security certificate.
* Delivered desirable product that met criteria specified by stakeholders and Cisco (project corporate sponsor); presented product to Duke Information Technology Advisory Council (ITAC) and professionals at Code+ 2021 Expo.
* Used: Python, Flask, SQL, Gunicorn, HTML, CSS, JavaScript, Bootstrap, React, Nginx, Git, command line.

**Undergrad Researcher: AI and Behaviors in Mice** | Duke University School of Medicine, NC Oct. 2020 – Present

Internship that turned into independent study focused on using deep-learning program ([SLEAP.ai)](https://sleap.ai/) to develop an algorithm that scores specific behaviors that mice exhibit when treated with hallucinogens. I researched the AI’s documentation, studied behaviors of interest in mice, analyzed and labelled 230,000+ frame movies, trained the AI to track mice position across the movie samples, and wrote scientific report on analysis and interpretation of the research’s data. Used: Python, MATLAB, TensorFlow, command line.

Key Accomplishments:

* Developed pose tracking algorithm with 94% accuracy.
* Detected 6 undiscovered instances of behaviors of interest.
* Earned “A” grade, future authorship in published paper, and request to work on 3D continuation of the research.

LEADERSHIP EXPERIENCE

**Community Coordinator: East Campus Community Council** | Durham, NC Sept. 2020 – May 2021

* Organized weekly meetings in team of 4 undergrads and a graduate resident to plan events and advocate for community.
* Duties: planned and organized events for over 200 students, advocated for students in need, supervised $5,000 community budget, worked with higher-ups and House and Residence Life (HRL), ensured adherence to the COVID-19 Duke Compact.
* Coordinated 6 major events for East Campus community with over 300 total attendants.

PROJECTS

[**BOE-lympics**](https://docs.google.com/document/d/1zu8CLjpVt8RU9W_eGdTW35ZFHFOhQxUlJh9ex2UhI-A/edit?usp=sharing) | Durham, NC Aug. 2021 – Dec. 2021

* Programmed [Parallax Boe-Bot](https://www.parallax.com/boe-bot-robot/) to maneuver around different shaped curves (including a circle) on a foam board to discern between a magic 8-ball, a rubber ducky, and a wooden pencil placed in the center of the circular ring, then use the robot to communicate the reading to other groups’ robots and perform a synchronous song, light show, or dance.
* The programmed Boe-bot successfully completed all 7 weekly challenges, and 98.7% on final team assessment.

[**Noah’s Ark**](https://drive.google.com/file/d/1GEO_rvE6w0WAqVnrtqLONMH1tyubyWAd/view)| Durham, NC Jan. 2021 – May 2021

* Devised algorithm used in final prototype that warns users of imminent flooding by using computer vision to determine water depth from a PVC pipe as a calibrated background and transmitting critical water depth data to the users every 15 minutes.
* Met the client’s product criteria and delivered desirable product that earned 93% on final assessment.
* Used: Python, C++, OpenCV, Arduino, Raspberry Pi, Git, Command Line, Fusion 360 (CAD).

TECHNICAL SKILLS / CERTIFICATES

* Microsoft Office Specialist Certificates in Excel, Word, and PowerPoint.
* Proficient in Python, Java, Flask, Gunicorn, Git, Command Line, Excel.
* Intermediate in JavaScript, HTML, CSS, C/C++, MATLAB, SQL, React, Django, Nginx, Bootstrap, OpenCV (computer vision library).