

# OLUWASEUN N. ADEYEYE CURRICULUM VITAE

## CONTACT

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## EDUCATION

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**Bachelor of Science in Electrical Engineering, in progress**

*May 2026*

*Howard University, Washington, D.C.*

Department of Electrical Engineering and Computer Science

**Maryland High School Diploma**

*June 2022*

Atholton High School, Columbia, MD

## RESEARCH AND ENGINEERING EXPERIENCE

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**Caltech WAVE Fellow**

**Summer 2025**

*Student Researcher, Nonlinear Photonics Laboratory*

*Pasadena, CA*

- Built an optoelectronic mode-locked laser system on thin-film lithium niobate (TFLN).
- Purchased components, assembled experimental setups, and characterized devices using power, beat-note, and pulse measurements.
- Created schematics and experimental layouts to test TFLN devices, integrating theory, fabrication, and nonlinear photonics practice.

**Howard University Researcher**

**Fall 2024 – Present**

*Student Researcher, Laser Spectroscopy Laboratory*

*Washington, D.C.*

- Conducting research on Raman spectroscopy of lunar analog minerals through machine learning modeling and simulation, developing software to predict mineral compositions.
- Optimizing machine learning models for mineral identification and refining predictive capabilities for lunar analog studies.

**Stanford Undergraduate Research Fellowship (SURF)**

**Summer 2024**

*Summer Researcher, Congreve Lab*

*Palo Alto, CA*

- Enhanced triplet–triplet annihilation upconversion efficiency, achieving a 4x increase in quantum yield.
- Performed wet-lab experiments including spin coating, evaporation, and photoluminescence measurements.
- Designed oxygen-controlled experiments to reduce efficiency loss.

**Google Tech Exchange**

**Spring 2024**

*2024 Cohort*

*Mountain View, CA*

- Selected for an immersive program providing in-depth exposure to cutting-edge technologies and industry practices.
- Collaborated with industry experts and peers on real-world projects, gaining insights into Google's innovative approaches.
- Developed proficiency with modern tools and technologies, enhancing technical and problem-solving skills.

**Howard University VIP Project**

**Fall 2023 – Present**

*Student Researcher, SUDO EM Lab*

*Washington, D.C.*

- Extended NASA JPL research by optimizing an open-source exoplanet imaging simulation tool.
- Mentored students in Julia programming and GitHub-based code management.

**NASA Jet Propulsion Laboratory (JPL)**

**Summer 2023**

*Summer Intern*

*Pasadena, CA*

- Developed an open-source simulation tool for exoplanet imaging using Julia.
- Implemented pupil-apodization basis sets to minimize solar interference.
- Programmed in C++ and Julia, broadening technical capabilities for scientific applications.

## CIEE Study Abroad

Summer 2022

*Student Researcher*

*Berlin, Germany*

- Completed a two-week fellowship featuring public health seminars, a visit to the World Health Organization, and cultural experiences including the Berlin Wall and concentration camps.

## Project Lead The Way (PLTW)

2018 – 2022

*Student Researcher*

*Columbia, Maryland*

- Completed interdisciplinary coursework in product design, electronics, patent research, and circuit building.
- Built problem-solving, critical thinking, collaboration, and perseverance skills through hands-on engineering projects.

## HONORS AND AWARDS

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### PLTW Engineering Academy Certificate

June 2022

- Received for completing the rigorous Project Lead the Way Engineering Academy, emphasizing foundational skills in engineering.

### Council of Elders of the Black Community Certificate of Achievement

June 2022

- Awarded by Howard County in recognition of commitment to impactful problem-solving and service to the community.

### James E. Blackwell Scholarship

August 2022

- Awarded in recognition of commitment to addressing practical problems with innovative solutions and a dedication to societal improvement.

### Yvonne Harrison Scholarship

August 2022

- Recognized for academic merit and dedication to problem-solving that benefits the wider community.

### Karsh STEM Scholar

August 2022 - Present

- Selected as a distinguished member of the 6th cohort of Howard University's prestigious Karsh STEM Scholars Program, recognizing academic excellence and leadership in STEM.

### Dean's List

2022 - 2024

- Honored on the Dean's List for academic excellence within the Howard University College of Engineering and Architecture.

### Howard University Empower Pitch Competition - 1st Place Winner

March 2024

- Awarded first place for Tree Technologies, a company dedicated to creating transformative digital applications for university campuses.

### AWS Certified Cloud Practitioner

November 2024

- Understanding of IT services and their uses in the AWS Cloud. Demonstrated cloud fluency and foundational AWS knowledge.

## PROFESSIONAL AFFILIATIONS

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### Bethel Campus Fellowship

Spring 2022 - Present

- Participated in fellowship activities that foster spiritual growth and community service.

### Howard University Student Association

Spring 2022 - Spring 2023

- Involved in student government initiatives to enhance the student experience at Howard University.

### Institute of Electrical and Electronics Engineers (IEEE)

August 2022 - Present

- Member of the Institute of Electrical and Electronics Engineers, involved in networking and professional development.

### National Society of Black Engineers (NSBE)

August 2022 - Present

- Active member of the National Society of Black Engineers, focusing on academic excellence and community outreach.

### Karsh STEM Scholars Program

August 2022 - Present

- Participating in a prestigious program aimed at supporting STEM students through mentorship and resources.



## CONFERENCE PARTICIPATION

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|--|-----------------------|
| <b>Science with the Habitable Worlds Observatory and Beyond Conference</b>   | <b>July 2023</b>      |
| <ul style="list-style-type: none"><li>• Explored future missions and the science of habitable worlds, with a focus on exoplanet imaging.</li></ul>   |                       |
| <b>NSBE's 50th Annual Convention</b>   | <b>March 2024</b>     |
| <ul style="list-style-type: none"><li>• Participated in sessions and networking events focused on engineering, professional development, and diversity in STEM.</li></ul>                    |                       |
| <b>ASU+GSV Summit</b>  | <b>April 2024</b>     |
| <ul style="list-style-type: none"><li>• Engaged with entrepreneurs, investors, and educators at the premier summit for education and workforce innovation.</li></ul>                         |                       |
| <b>IEEE MTT-S International Microwave Symposium</b>  | <b>June 2024</b>      |
| <ul style="list-style-type: none"><li>• Attended sessions focused on microwave theory and techniques, with particular interest in engineering applications.</li></ul>                        |                       |
| <b>The Leadership Alliance National Symposium</b>  | <b>July 2024</b>      |
| <ul style="list-style-type: none"><li>• Participated in discussions on leadership in STEM, with emphasis on advancing research in underrepresented communities.</li></ul>                    |                       |
| <b>HBCU Entrepreneurship Empowerment Summit</b>  | <b>September 2024</b> |
| <ul style="list-style-type: none"><li>• Represented Howard University at a national summit for student entrepreneurs, focusing on innovation, networking, and venture development.</li></ul> |                       |
| <b>Annual Biomedical Research Conference for Minoritized Scientists (ABRCMS)</b>   | <b>November 2024</b>  |
| <ul style="list-style-type: none"><li>• Engaged with scientific leaders and peers, fostering collaborations in biomedical research.</li></ul>  |                       |

## PROJECTS

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|---|-------------------------------|
| <b>Rooted: University Hub</b>    Website  iOS App   | <b>January 2023 - Present</b> |
| <ul style="list-style-type: none"><li>• Co-founded Tree Technologies, a company focused on developing innovative digital applications for universities.</li><li>• Created a centralized platform that enables students to seamlessly connect with Howard University's technology infrastructure.</li><li>• Built using React Native and AWS, encompassing both the frontend and backend of the application.</li></ul> |                               |

## ACADEMIC SERVICE AND LEADERSHIP

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| <b>Howard University Student Association (HUSA)</b>  | <b>Spring 2023 - Spring 2024</b> |
| <i>Senator, College of Engineering and Architecture</i>  | <i>Howard University</i>         |
| <ul style="list-style-type: none"><li>• Represent the School of Engineering and Architecture in the Howard University Senate. Key accomplishments include passing the "Project Gift-back" and "Flowers Project" Acts, initiatives aimed at supporting and giving back to Howard University workers and administration.</li></ul> |                                  |
| <b>College of Engineering Council</b>  | <b>Fall 2022 - Present</b>       |
| <i>Council Member</i>  | <i>Howard University</i>         |
| <ul style="list-style-type: none"><li>• Played a central role in coordinating the College of Engineering and Architecture Hackathon, set to engage over 200 students from the DC area.</li></ul>   |                                  |
| <b>Bethel Campus Fellowship</b>  | <b>January 2024 - Present</b>    |
| <i>Men's Fellowship Coordinator</i>  | <i>Howard University</i>         |
| <ul style="list-style-type: none"><li>• Serve as a CoLabourer, organizing events such as Men's Fellowship and Bible studies, fostering community engagement and support within the fellowship.</li></ul>   |                                  |

## COMMUNITY OUTREACH AND SERVICE

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### Redeemed Christian Church of God

**2016 - Present**

*Volunteer*

*Washington, D.C.*

- Participated in Christmas toy drives, food and clothing drives, delivering essentials to families and supporting community welfare.

### General Community Service

**2016 - Present**

*Volunteer*

*Various Locations*

- Dedicated to community initiatives across Maryland and Washington, D.C., engaging with organizations like the NAACP, NSBE, and Howard University groups, contributing through food drives, clothing distributions, freshman move-in assistance, and community cleanups.

### Black Student Union

**2018 - 2022**

*Member*

*Columbia, Maryland*

- Assisted in organizing community events and presented at a Black History Month presentation, educating on significant historical contributions.

### Alpha Achievers

**2018 - 2022**

*Executive Board Member*

*Howard County, Maryland*

- Led community service initiatives, including food and clothing drives, and organized school activities such as half-time events, promoting camaraderie among Black male students in the county.

### Project Lead the Way (PLTW)

**2020 - 2021**

*Student Leader*

*Columbia, Maryland*

- Led field trips for minority middle school students, introducing them to engineering concepts through interactive exercises and demonstrations.

## COMPUTER SKILLS

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### Coding Languages

- Python, C++, Julia, Swift, Kotlin, React Native

### Developer Tools

- VS Code, Xcode, Android Studio, GitHub, Autodesk, Microsoft Suite, Paraview, AWS

## REFERENCES

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**Mr. Ronald Smith**, Director of the Karsh STEM Scholars Program

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**Dr. Su Yan**, Assistant Professor, Howard University

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**Dr. Daniel Congreve**, Assistant Professor of Electrical Engineering, Stanford University

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**Dr. Alireza Marandi**, Professor of Electrical Engineering and Applied Physics, California Institute of Technology

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