

Auston Terrell Parker

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Education

Dual-Degree Physics & Mechanical Engineering

Expected Graduation: May 2026

North Carolina Central University(current)

Bachelor of Science in Physics, Minor in Math

Cummulative GPA: 3.93

North Carolina State University(2024)

Bachelor of Science in Mechanical Engineering

Relevant Coursework:

Computational Physics I, Mathematical Methods of Physics, Differential Equations, Probabilities & Statistics I-II, Physics I-III, Calculus I-III

Awards

Cheatham-White Scholarship

August 2021 - Present

Fully funded four year merit scholarship for students attending North Carolina Central University.

Outstanding Freshman in Physics

April 2022

Awarded for exceptional acheivement in academics and community for a freshman majoring in physics at North Carolina Central University.

Extracurriculars

NSBP | President

May 2022 - Present

President of the NCCU chapter of the National Society of Black Physicists.

- Organized multiple volunteer service events in the Durham community, spreading awareness for physics and scientific literacy at highschools.

- Planned cooperative physics events between other universities in the area such as UNC Chapel Hill.

PREM CLUB | Vice President

August 2022 - Present

Vice president of NCCU's Partnership for Research and Education in Material Science.

- Planned cooperative research events between other universities in the area such as UNC Chapel Hill, Penn State University, and Duke.

HCASC Varsity | Team Member

March 2022 - Present

Varsity player on the NCCU's Honda Campus All-Star Challenge quiz bowl team.

- Became a varsity player freshman year leading the team into the National Championship Tournament.

- Invited to the Honda HBCU Mentoring Circle Meeting, discussing strategies for sucess in the engineering and STEM fields.

Experiences

Undergraduate Researcher | NCSU ISE RISE

6/6/22-8/12/22

Participated in North Carolina State University's Industrial and Systems Engineering Research Internship Summer Experience (ISE RISE) program as an undergraduate researcher, working in the Brain Computer Interface Lab studying brain-controlled devices with a focus on a motor imagery-controlled wheelchair.

- Designed and built a wheelchair for the study with an electroencephalography system and safety features for handicapped users, using AVR microcontrollers and LIDAR to create control, safety, and measurement systems for participants.
- Implemented a wheelchair control and data collection suite in C++ and Python. Using OpenViBE to collect and interpret information from both wet and dry EEG electrode systems.
- Organized a literature review and collaborated with researchers at Hangdong University in South Korea to design a study comparing the efficacy of motor-imagery controlled wheelchairs with both handicapped and able-bodied participants.
- Presented a poster with preliminary findings at NC State's Undergraduate Summer Symposium.

Intern | BHLI

5/18/22-6/2/22

Member of the Bluford Healthcare Leadership Institute which prepares scholars for a career of leadership in the healthcare industry and provides them with an invitation to an internship in the field for the next year.

- Toured the healthcare community and facilities in Kansas City listening to a diverse roster of speakers including Clinical Researchers at Stowers Institute, Information Technology personnel at Cerner, and Clinical and Biomedical Engineers from Medtronic and Best Buy.
- Researched information security in the healthcare industry and developed ideas for protecting the electronic health and medical records of patients while integrating technology safely in the field. Presented the finding of the case study in front of healthcare leaders.

Undergraduate Researcher | NCCU PREM

7/26/21-Present

As an undergraduate fellow in the Partnership for Research and Education in Material Science researched the properties of the 2D nanomaterial Bismuth Oxyselelide and its applications in glucose biosensing for diabetics.

- Evaluated multiple routes of 2D nanosheet synthesis including the hydrothermal, one-step, and molten salt methods, using Raman Sepectroscopy to detect purity the of the synthesized sample.
- Characterized its feasibility as a nanozyme for detection of glucose levels in low pH organic enviornments, using UV-Vis spectroscopy to determine its sensitivity to varying concentrations of hydrogen peroxide.

Undergraduate Researcher | NCCU DREAM STEM RDI

6/8/21-7/30/21

Developed an entrepreneurship project called "resistorSortor" for the organization and sorting of electrical components for electronics hobbyists and academics.

- Developed a circuit and microcontroller system to automatically measure resistance and sort components in Arduino Language. Then implemented a graphical user interface to connect with the product in C#.NET.
- Used the software SOLIDWORKS to design and prototype 3D printed components for resistorSortor.
- Created a business plan and model canvas for the development of my product and pitched it to various buisness competitions, becoming a semi-finalist in the Bearway Capital Venture Challenge HBCU Business Plan competition, by advocating for increased electronic sustainability and literacy.