

Olivia J. Clark

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Academic Summary

Oak Ridge High School (9-12)

G.P.A. (Grades 9-11): 4.2 (weighted); 3.778/4.000 (unweighted)

Highest ACT Composite Score: 31 ; ACT Superscore: 33

Advanced Placement (AP) Courses

Physics C (E&M), Physics C (Mechanics), Physics 2, Physics 1, Calculus AB, Statistics, English Literature, Seminar, Us Government & Politics

Academic/Career Interests

Physics, Mathematics, Computer Science, Engineering, Research, Teaching, and/or Communication

Honors

Oak Ridge Sunset Rotary STEM Scholarship

Additional Educational Experience

Governor's School for Computational Physics

Over the summer of 2023, I was granted the opportunity to spend three weeks at Austin Peay State University learning computational physics. There, I was introduced to computational approximation methods, programming with Fortran and Linux, graphing softwares, machine learning, and some higher-level math courses; all of which were used to create increasingly complex physical simulations. For my work I received 3 college credit hours for computational science and engineering as well as 1 lab credit hour. I've detailed the work that I completed in a comprehensive portfolio linked below.

Computational Astrophysics at UTK

After my experience at Governor's School, I wanted to maintain the momentum of my summer studies into my senior year of high school. After surveying my options, I took the initiative to contact Dr. Mike Guidry with the physics department at UTK and arranged to participate in his research group on computational astrophysics. Through this opportunity, I've been able to practice and apply the skills I learned at Governor's School as well as gain experience in programming with C++, MATLAB, and Python. I learned to further my math and programming skills by applying them to cutting-edge problems in astrophysics. This experience deepened my understanding of the scientific publishing process and the workings of the scientific community as a whole. In addition, the lasting mentorship relationships with both undergraduate and graduate students that I've been fortunate to establish during this period have proven to be invaluable.

Astronomy with Roane State Community College

Over the course of my senior year, my curiosities led me to become involved with the local astronomy club in Oak Ridge (ORION) as well as the observatory (TAO) where public viewing events as well as Roane State Community College lectures are held. There, I met Dr. David Fields and Dr. Noah Frere who allowed me to audit astronomy classes over the spring semester. Through my participation in the club and class, I was able to learn astronomy, use advanced optical equipment, attend talks and lectures, participate in projects with students and teachers, author contributions to the ORION newsletter, and engage with a group of like-minded students and community members.

School, Community, and Leadership Activities

Club Participation:

- ORION (Oak Ridge Isochronous Observation Network)
- SOUP (Students of Undergraduate Physics) Club
- Mu Alpha Theta
- Philosophy Club
- Art Club

School Activities/Service:

- Tutoring
- Student Aiding Program
- UT Engineering Day

Community Service:

- Clinch Valley Trail Association
- National Martial Arts
- Oak Ridge Girls' Club
- Willow Ridge Garden Center
- Mu Alpha Theta- State Convention

Links

My Governor's School Portfolio

<https://github.com/ojordanc2005/GSCP>

Research with Dr. Guidry's group

<https://arxiv.org/pdf/2312.09090>

My Personal Website Project

<https://github.com/ojordanc2005/Oliz-World>

***** For links to github.com, scroll down to find the "README" instructions! *****