JOSHUA SANTY

Defense-Focused Researcher | Physics & Applied Mathematics Graduate
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EDUCATION

B.S. Physics and B.S. Applied Mathematics
Missouri University of Science and Technology
08/2021 – 05/2025 • Rolla, Missouri

- Emphasis in Computational Mathematics
- Accepted into Aerospace Control Systems Certificate Program (Fall 2025)

EXPERIENCE

Undergraduate Researcher – Physics (2024 OURE Fellow)
Missouri S&T
08/2023 – 05/2025 • Rolla, Missouri

- Conducted Condensed Matter research with Dr. Medvedeva as part of the Opportunities for Undergraduate Research Experience (OURE) program; awarded the 2024 OURE Fellowship
- Investigated properties of metal-doped amorphous Transparent Conducting Oxide SnO
- Ran simulations on S&T's Supercomputer Cluster, the Foundry; used Python and Matplotlib to analyze data and generate detailed visualizations (including 3D representations via VESTA)
- Published co-authored paper in Journal of Applied Physics (2025); prepared manuscript in LaTeX via Overleaf; DOI: https://doi.org/10.1063/5.0246364
- Presented findings at several research conferences to academic and professional audiences

Society of Physics Students Officer
Missouri S&T
01/2024 – 01/2025 • Rolla, Missouri

- Elected as Historian Officer for the Society of Physics Students (SPS) at Missouri S&T for two semesters
- Organized academic resources and maintained records to support engagement and preserve chapter history

Media Team - Presentation Lead
Christian Campus Fellowship
10/2023 – 05/2025 • Rolla, Missouri

- Collaborated with campus ministers to create and present ProPresenter slides including song lyrics, verses, announcements, videos, and background audio, for weekly worship events
- Led live presentations, handling last-minute changes and ensuring everything flowed smoothly

SUMMARY

Detail-oriented Physics and Applied Math graduate with a strong foundation in scientific computing, a record of research integrity, and a commitment to supporting mission-critical defense applications.

SKILLS

Python, C++, R, Linux, LaTeX, MATLAB, Matplotlib, OpenCV, Git, Circuits, Electrical Instruments, Lasers

PROJECTS

Analyzing Phase Locking and Quasiperiodicity (2024)
Analyzed phase locking and quasiperiodicity of cascade juggling using Python and OpenCV

Numerical Analysis of the Lorenz System (2024)
Analyzed the Lorenz System using MATLAB

CipherSleuth (2024)
Collaborated on Google Chrome extension capable of decrypting highlighted cipher text

Footprintfree.tech (2023)
Collaborated on website using Google Maps API to calculate vehicle carbon emissions

Physics Advanced Lab (2023)
Collaborated on semester-long projects: Optics Properties, and Sonoluminescence

AWARDS & HONORS

- OURE Fellowship Research Award (2024)
- Fuller Physics Research Competition Winner, (2024)
- Presented at the AIP Global Physics Summit in Anaheim, CA (2025)
- Sigma Pi Sigma Physics and Astronomy Honor Society (2023)