

Avery Fernandez

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Education

The University of Alabama, Tuscaloosa, AL
Bachelor of Science in Computer Science, May 2025

Skills

Python, TensorFlow, Tesseract, PyTorch, OCR, C++, Web Development, App Development
Hardware Integration, Electrical Circuitry, Soldering, Wiring Diagrams, Custom PCBs

Work Experience

Programmatic Data Analyst, October 2021 – Present
UA Library, Tuscaloosa, Alabama

- Developing tutorials and guides in both Python and Unix
- Topics are covering network analysis, API calls, data manipulation, graphic visualization, machine learning, and OCR
- Working alongside other professors and department on research papers and projects that require programming assistance like text analyzation, data analysis and visualization, and image processing
- Constructing lesson plans for in-person lectures and conducting lectures that teach use cases for Python and Unix along with hardware integration

Intern, October 2022 – Present
Fanaticus XR, Remote

- Working with 3D and VR technology to develop virtual environments
- Surveying potential consumers on public opinion of products and potential improvements

Other Experience

Alabama Rocketry Association, March 2022 – Present
Avionics Leader, September 2022 – Present

- Teaching skills like soldering, wiring diagrams, electrical wiring, and programming
- Developing a payload that orientates perfectly parallel to horizon
- Decoding data transmission from ground control and performing a series of tasks that require a camera, filtering images, and rotating camera

Avionics and Payload Technician, March 2022 – June 2022

- Competed in NASA's Student Launch competition
- Developed an imaging system that utilized key points to match rocket's position to surrounding environment to calculate location for recovery
- Redesigned, optimized, rewired, and programmed payload system that deployed a camera post-apogee and took pictures during flight time
- Optimized payload designed to withstand both wind resistance during descent and pressure differential between rocket interior and atmosphere
- Utilized Raspberry Pi to automatically calculate flight altitude and control payload based off rocket's checkpoints

Publications / Awards

- <http://optimumaf.com/>
- <https://github.com/AveryUALibrary>
- <https://github.com/OptimumAF>
- 2022 Dean's List
- Graduated with Honors and Distinction
- Scalfani, V.F.; Patel, V.D.; Fernandez, A.M. Visualizing Chemical Space Networks with RDKit and NetworkX, 2022, submitted