

Anthony Rihani

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EDUCATION

University of Illinois at Urbana-Champaign

Expected Graduation Date: May 2024

Bachelor of Science in Aerospace Engineering, Minors in Computer Science and Mathematics

Dean's List: Spring 2021, Fall 2021, Spring 2022

GPA: **3.94/4.00**

TECHNICAL EXPERIENCE

Eggl Research Group

January 2022-Present

Software Engineer (Research Assistant)

Champaign, IL

- Developed an API service using FastAPI framework that identifies satellites in astronomical images
- Used SGP4 model and Skyfield library to pinpoint satellite at a given epoch
- Implemented features for DiRAC's Trailblazer Project in Django framework
- Created standardizers to collect metadata from long exposure images
- Created processors to properly organize user-uploaded images in data repository

Tran Research Group

August 2021-December 2021

Software Engineer (Research Assistant)

Champaign, IL

- Investigated the possibility of improving human-machine collaboration implicitly
- Created algorithms to detect perturbations in EEG data for machine learning algorithms
- Developed software to process raw electroencephalogram (EEG) data

Illinois Space Society

August 2021-December 2021

Spaceshot: Avionics

Champaign, IL

- Developed software that extended functionality in-flight
- Implemented linear algebra library for controls sub-team
- Upgraded avionics bay for club's rocket submission

OTHER RELEVANT EXPERIENCE

Independent Tutor

August 2020-Present

- Learned how to effectively work with others and communicate my thoughts in different ways
- Assist 10 students in the following fields: Mathematics, Computer Science, Physics
- Instruct in the following courses and languages: Calculus, Linear Algebra, Algebra, Geometry, Physics: Mechanics, Java, Python

Resident Advisor

August 2021-May 2022

Allen Hall University Housing

Urbana, IL

- Served as a resource to 60 incoming first year students and transfer students living in a University of Illinois residence hall
- Facilitated 2 monthly programs that incorporate the Illinois Residential Experience while also fostering relationships between residents
- Gained conflict resolution skills while responding to over 10 student conduct incidents
- Conducted routine nightly checks throughout building to ensure the safety of 600 residents
- Improved time management, communication, and organizational skills

SKILLS

Programming Languages: Python, C++, Java, C#, HTML, CSS, JavaScript

Frameworks/Libraries: NumPy, SciPy, Matplotlib, Django, Catch2, FastAPI, Skyfield, SGP4, AstroPy, SpicyPy, Pandas, SymPy

Other Software: Git, VSCode, Docker, Autodesk AutoCAD, Autodesk Inventor, Siemens NX

Operating Systems: Windows, Linux

Related Coursework: Computer Science I & II, Data Structures, Aerospace Flight Mechanics, Aerospace Control Systems, Applied Linear Algebra, Differential Equations, Discrete Mathematics, Numerical Methods