

# Nikolai Kirby

## AI Flight Optimization Engineering Intern

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### SUMMARY

Graduate student in Computer Science with substantial hands-on experience in artificial intelligence and machine learning applications for aerospace. Proven capability in Python programming and software development enhances ability to contribute effectively in innovative aerospace engineering contexts. Experience in telemetry analysis and flight optimization projects aligns well with organizational goals. Competent in developing and refining AI-driven solutions that boost efficiency, safety, and performance in aviation. Eager to collaborate with a talented team at Skydweller Technologies for meaningful contributions to advanced aerospace technologies.

### EDUCATION

#### Master of Science in Computer Science

University of Oklahoma 🎓 GPA: 3.8 📅 2026 📍 Norman, OK

*Coursework: Algorithms, AI Applications, Software Development, Data Structures*

### TECHNICAL SKILLS

- **Programming Languages:** Python
- **Machine Learning Tools:** TensorFlow, scikit-learn
- **Version Control Systems:** Git
- **Agile Methodologies:** Scrum, Kanban
- **Database Management Systems:** SQL, MongoDB
- **Cloud Platforms:** AWS, Azure
- **Development Frameworks:** Flask, Django
- **Data Visualization Tools:** Matplotlib, Seaborn
- **Telemetry Analysis Tools:** MATLAB, LabVIEW
- **Testing Frameworks:** pytest, unittest

### SKILLS

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|--------------------|------------------------|------------------------------|-------------------------|
| • Python           | • Git                  | • Model Training             | • System Testing        |
| • Machine Learning | • Agile Methodologies  | • Feature Engineering        | • Automation Techniques |
| • AI Development   | • Telemetry Analysis   | • Predictive Algorithms      | • Documentation         |
| • Data Analysis    | • Software Development | • Simulation Data Processing | • Collaboration Skills  |

### EXPERIENCE

#### AI Flight Optimization Intern

University Research Lab 📅 January 2026 - Present 📍 Tulsa, OK

Support R&D initiatives at University Research Lab focusing on agentic AI for aerospace applications. Engage in software development activities while collaborating closely with industry experts to advance knowledge in the field.

- Collaborated with engineers to design an Agentic AI prototype for analyzing flight data, enhancing overall aircraft performance.
- Developed Python scripts for processing aerospace telemetry datasets, streamlining data analysis through efficient automation techniques.
- Participated in agile development sprints, contributing valuable insights during design reviews and team discussions, which shaped project goals.
- Documented workflows and system architecture, improving clarity and communication of methodologies for stakeholders.
- Assisted validation efforts ensuring AI recommendations met the necessary standards for safety and performance.
- Researched autonomous aircraft operations with a focus on optimizing energy efficiency and operational endurance.

#### Machine Learning Project Developer

Student Innovation Lab 📅 September 2025 - December 2025 📍 Tulsa, OK

Played an integral role in presenting machine learning innovations through classroom projects, showcasing predictive algorithms derived from simulation data processing.

- Designed and implemented machine learning algorithms that predicted outcomes accurately from complex simulation datasets.
- Conducted comprehensive data preparation and feature engineering that significantly improved input quality for AI models.
- Worked collaboratively with peers delivering project results at a university exhibition, receiving commendations for innovative problem-solving approaches.

- Utilized TensorFlow and scikit-learn for model creation, gaining hands-on experience with essential industry-standard tools.
- Presented findings and methodologies during academic seminars, stimulating discussion around the application of AI in aerospace.
- Maintained detailed documentation of the project's progress, ensuring outcomes could be replicated for future academic inquiries.

**LEADERSHIP & AWARDS**

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- Dean's List, University of Oklahoma, Fall 2025
- 1st Place, University Hackathon, Spring 2025

**CERTIFICATIONS**

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- Python for Data Science and AI 📅 2026
- Machine Learning Fundamentals 📅 2026

**PROFESSIONAL AFFILIATIONS**

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- Member, Aerospace Engineering Society, University of Oklahoma
- Volunteer, STEM Outreach Program, University of Oklahoma

**LANGUAGES**

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- English (Native)
- Spanish (Intermediate)

**ADDITIONAL INFORMATION**

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**Work Status** : Authorized to work in United States. No sponsorship required.

**REFERENCES**

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AVAILABLE ON REQUEST