

AKSHATA PATIL

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Master's student at Stanford University's GPS Lab, researching robust and secure Position Navigation Timing (PNT) solutions for autonomous vehicles.

EXPERIENCE

JANUARY 2023 – PRESENT

RESEARCH ASSISTANT | GPS LAB, STANFORD

- Developed a machine learning model using computer vision to auto-detect Space-based interference in GNSS data.
- Gained hands-on experience with GNSS hardware for data logging and MEO satellite tracking.
- Built expertise in signal processing techniques, integrated navigation systems, and inertial navigation systems.

SEPTEMBER 2022 – PRESENT

AVIATION RESEARCH ENGINEERING INTERN | ATAC

- Conducted comprehensive air traffic data analysis and applied visualization software to analyze air traffic operations.
- Formulated air traffic planning and scheduling scenarios as numerical optimization problems, including linear and mixed integer programming.
- Developed machine learning algorithms to find significant patterns in aviation-related data and integrated advanced data mining techniques into ATAC research and commercial products.

AUGUST 2020 – SEPTEMBER 2022

LIDAR DATA ANALYST | RIEGL USA, INC.

- Automated LiDAR data processing ranging from IMU data import to producing a imagery colorized 3D point cloud.
- Developed software to report & mitigate discrepancies between survey control and LiDAR data.
- Developed a GUI to compute LiDAR point densities under varying target distances and flight speeds.
- Experienced with post processing Bathymetric data and feature extractions.

MAY 2020 – AUGUST 2020

STRUCTURAL DESIGN ENGINEERING INTERN | PIPER AIRCRAFT, INC.

- Designed solid models of aircraft parts and installations using NX.
- Prepared detail & assembly drawings of parts & installations using NX to comply to comply with ASME Y14.5 standards.
- Created Engineering Orders and Engineering Work Orders for production changes and test operations.
- Created/Updated Engineering Process Specifications to comply with FAA regulations.

MAY 2018 – MAY 2020

FLIGHT AUTOMATION LEAD | RED SYSTEM | FLORIDA TECH SENIOR DESIGN

- Designed an autonomous aerial rescue delivery system to deliver emergency medical packages in remote areas.
- Developed a software to compute aerodynamic and flight stability performance parameters.
- Optimized the range and endurance of the delivery system using statistical data analysis on MATLAB.
- Programmed the flight autonomy using Pixhawk and simulated flight paths using Mission Planner & Gazebo.

EDUCATION

B.S AEROSPACE ENGINEERING | FLORIDA INSTITUTE OF TECHNOLOGY | MELBOURNE, FL | AUGUST 2016 – MAY 2020

M.S AEROSPACE ENGINEERING | STANFORD UNIVERSITY | PALO ALTO, CA | SEPTEMBER 2022 – MARCH 2024

SKILLS

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|----------|----------------------------|-------------------------------|---------|
| ▪ MATLAB | ▪ Flight Test / Automation | ▪ MS Office | ▪ GNC |
| ▪ Python | ▪ Sensor Calibration | ▪ GitHub | ▪ ROS2 |
| ▪ Julia | ▪ Sensor Fusion | ▪ Hardware & Software Testing | ▪ AI/ML |

HONORS AND PUBLICATIONS:

DISTINGUISHED STUDENT SCHOLAR AWARD, FLORIDA TECH: (2019, 2020)

2021 IEEE AEROSPACE CONFERENCE – "Demonstration of In-Flight Docking Between Quadcopters and Fixed-Wing UAV,"
2021 IEEE Aerospace Conference (50100), 2021, pp. 1-9, doi: 10.1109/AERO50100.2021.9438229.

SHARON KAY SUMMER DOCTORAL FELLOWSHIP, STANFORD UNIVERSITY: (2023)

2023 ION GNSS – "Detecting Space Based Interference on GNSS Signals". 2023 ION GNSS Conference, Denver CO