

## USRA – Foothill SLI Internship at NASA Ames Research Center

Technical Area: **Computer Science/Data Science**

### PROJECT 1: Title: Data Analytics Internship

Duration: 1/15/22 – 3/18/22 (10 weeks)

Term: Winter 2022

Open to US citizens only

#### Project Description:

Objective of the Internship:

- Develop software to analyze publicly available data for Advanced Air Mobility (AAM)
- Visualize and present the data analysis to technical and non-technical audience

The intern will conduct manual and programmatic data analysis of various data sets for Advanced Air Mobility (AAM). The intern will analyze, visualize and develop software scripts to analyze and provide metrics of the data. The intern will visualize the results and produce charts, tables, graphs, etc. and present the visual results to the team. The intern will work under the guidance of NAMS software engineer and the NAMS Program Management. The intern will gain experience with research, data analytics, software engineering, and data visualization.

Desired Skill Set:

- Ability to conduct research with attention to detail
- Programming in *Python* to conduct data analysis
- Ability to visualize and interpret the data
- Written and oral communication to technical and non-technical audience

Tasks to be accomplished:

- Analyze available data using manual research
- Analyze available data programmatically
- Develop software that can be configured and run periodically to analyze data
- Write software documentation including technical documentation and user guides
- Visualize results of the data analysis
- Demonstrate how the software works
- Present results of the analysis

Project Deliverables:

- Present results to the team from manual and programmatic analysis
- Present demo of software developed to the group: demonstrate how the software works, the inputs it takes and outputs it generates
- Provide working software code: use USRA software version control and code repository
- Provide software documentation including user guides, visualizations and technical specifications
- Final presentation of study results including data analysis and visualizations
- Provide Monthly Status reports

**Technical Area: Software Engineering/Computer Science****PROJECT 2: Title: Business Applications Automation Internship**

Duration: 1/15/22 – 3/18/22 (10 weeks)

Term: Winter 2022

Open to US citizens only

**Project Description:**Objective of the Internship:

- Develop and support programmatic business applications
- Automate extraction of data from various reports
- Develop software to generate reports and other relevant business data
- Present results to technical and non-technical audience

The student will assist with programmatic business application development by developing software that provides a streamlined approach. The aim of this project is to develop software to programmatically or semi-programmatically extract data and generate reports, write documentation for the software and demonstrate the software. The student will work in a team environment under the guidance of software engineer and NAMS program manager. The student will gain experience with software development, testing, scripting, documentation, and business application processes.

**Desired skillset:**

- Ability to learn and work with new technologies such as Microsoft Power Automate
- Programming in Python and/or JavaScript
- UI skills such as HTML and CSS, particularly for mobile screens preferred
- Written and oral communication to technical and non-technical audience
- Ability to solve open-ended problems

**Tasks to be accomplished:**

- Developing software to improve program specific tools
- Write software documentation including technical documentation and user guides
- Analyze business processes and suggesting improvements
- Demonstrate software application
- Present results to the group

**Project Deliverables:**

- Present demo of software to the group: demonstrate how the software works, the inputs it takes and the outputs it generates
- Final presentation of software to the group: present the results of the work to the group
- Provide working software code: by using organization's software version control and code repository
- Provide software documentation including user guides and technical specifications
- Provide Monthly Status reports