

## Aniruddha Mukherjee Industry Experience

### **Mercury Systems** (*Aug 2023 – Current*)

As a Software Development Engineer, I am currently working on the design and development of a black box system for aerial vehicles used by the U.S. military. My specific roles are summarized by the list shown below.

- Designing and building the architecture, code, and other related components for the black box system.
  - Ensuring the various components of the aerial vehicle are functioning correctly through system-level design techniques.
  - Implementing and optimizing both industry-standard and custom Machine Learning models for system monitoring and predictive maintenance. ○ Working with industry-standard models such as Multi-layer Perceptron Neural Network (MLPNN), C5.0 Decision Tree, Bayesian Networks (BN), and Ensemble Models.
  - Developing custom ML models tailored to the specific architecture of the project, optimizing them for better performance and accuracy.
    - These custom models are designed to complement the industry-standard models, providing a comprehensive and robust predictive maintenance solution.
  - Utilizing ML models to analyze system data and predict potential failures, enhancing the reliability and safety of the aerial vehicles.
  - Implementing real-time data processing and analytics to monitor the status of the black box and the aerial vehicle.
- Continuing to lead presentations for projects, demonstrating leadership and communication skills.
  - Leading the presentation for the black box project, explaining the design and functionality to other members of the Mercury Systems' team such that other components that are being developed by other team members can work fluently.
  - Demonstrating leadership skills by coordinating with the team and managing project timelines.
- Staying updated with the latest trends and technologies in software development and machine learning, ensuring the solutions developed are state-of-the-art.
  - Continuously learning and implementing new software development practices and ML models.
  - Contributing to the software development community by sharing knowledge and experiences.

### **Mercury Systems** (*May 2023 – Aug 2023*)

- Developed embedded software for aerial vehicles using C/C++, assembly, Python, and Green Hills Software's products, such as Integrity RTOS and MULTI IDE.
  - Worked on developing software for aerial vehicles using C/C++, assembly, and Python.
  - Utilized Green Hills Software's products, such as Integrity RTOS and MULTI IDE, to develop software.
- Designed and implemented the controller system architecture for an Arduino-based test platform, using best practices and industry standards.
  - Designed and implemented the controller system architecture for an Arduino-based test platform.
  - Followed best practices and industry standards to ensure the quality of the architecture.
- Lead the presentation for many projects that were undertaken in the team I was a part of, demonstrating my leadership and communication skills.
  - Led the presentation for many projects that were undertaken in the team.
  - Demonstrated leadership and communication skills.
- Created an automated code validation system using Python, LDRA, Bitbucket, and Jenkins, that detected code changes, identified the user and branch, and applied LDRA tools to ensure code quality and compliance.
  - Created an automated code validation system using Python, LDRA, Bitbucket, and Jenkins.
  - The system detected code changes, identified the user and branch, and applied LDRA tools to ensure code quality and compliance.
- Created an automated hexadecimal to voltage converter for Arduino systems, using Python and serial communication protocols.