Biweekly Report

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Period: May 26 - June 8, 2025

Project: Smart Maintenance Platform for Aero Engine Industrial Equipment

Week 1: AI Model Debugging (May 31 - June 1, 2025)

During this week, I focused on debugging AI model integration and prediction functionality:

1. **AI Model Integration Debugging (May 31 - June 1)**
    - Resolved model loading and initialization issues in production environment
    - Fixed prediction pipeline performance bottlenecks
    - Debugged data preprocessing and feature extraction problems
    - Validated model output accuracy and consistency
    - Optimized memory usage for large-scale model inference

Time spent: 4 hours

Week 2: Architecture Documentation and Quality Lessons (June 4 - June 8, 2025)

This week was dedicated to finalizing system architecture documentation and capturing quality control experiences:

1. **System Architecture Documentation (June 4 - June 8)**
    - Completed detailed system architecture diagrams and specifications
    - Finalized design decision documentation with rationale
    - Created component interaction diagrams and data flow documentation
    - Developed system maintenance and upgrade procedures
    - Documented AI model architecture and integration patterns
2. **Testing and Quality Control Lessons (June 4 - June 8)**
    - Documented comprehensive testing methodologies and best practices
    - Captured quality assurance processes and validation procedures
    - Created recommendations for future testing strategy improvements

Time spent: 17.5 hours

Completed WBS Items

• **WBS 6.3**: System Debugging (AI Model Integration) - 100% Complete

• **WBS 7.1**: System Documentation Finalization (Architecture & Design) - 100% Complete

• **WBS 7.3**: Lessons Learned Documentation (Testing & Quality) - 100% Complete

Challenges & Solutions

The main challenge was ensuring AI model reliability and performance in the production environment. I addressed this by:

1. Implementing comprehensive model validation and monitoring procedures
2. Creating automated testing frameworks for model accuracy verification

Next Steps

1. Monitor AI model performance in production environment
2. Support post-launch model optimization and tuning
3. Provide technical guidance for future model updates
4. Archive testing procedures and quality documentation

Total Hours Worked: 21.5 hours