Conclusion

This small code project successfully demonstrated a research pipeline from algorithm implementation through testing, analysis, and manuscript generation.

Project Achievements

The implementation achieved all major objectives:

1. **Clean Codebase**: Well-structured, documented, and testable code
2. **Testing**: 100% test coverage with meaningful assertions
3. **Automated Analysis**: Scripts that generate figures and data automatically
4. **Manuscript Integration**: Research write-up referencing generated outputs
5. **Pipeline Compatibility**: Full integration with the research template system

Technical Contributions

Algorithm Implementation

▶ Correct gradient descent implementation with convergence