

# Status Update

## Executive Summary

This work uses maximum likelihood estimation (i.e., optimization) for parameter estimation in misspecified semi-parametric models. The mathematical model is complete and coded in a jupyter notebook. No external input data was needed for this project and the project is on time to be completed. Since submission of the proposal, the scope of the project has been redefined to exclude Bayesian optimization and emphasize theoretical investigation of statistical model identifiability. Moreover, success is now defined by demonstrating the importance of model identifiability and proposing next steps to tackle this issue. From peers, I need help organizing my code to flow more logically.

## Updated Timeline

An updated timeline is shown below. It has been edited to reflect the time remaining in the semester and the updated scope. I anticipate that organizing my code to be consistent with the mathematical notation presented in the methods will be time consuming, and thus I've budgeted a whole week for it. The original final deliverable was to show how maximum likelihood estimation could be used for Gaussian process semi-parametric regression to reduce computational burdens of standard Bayesian calibration. I have since discovered this idea is not statistically sound, and thus the remainder of this project emphasizes distilling these results to the engineering community, and proposing potential paths forward.

	April				May
	3-Apr	10-Apr	17-Apr	24-Apr	1-May
Organize JNB					
Publication Quality Plots					
MathTyping					
Distill Final Results					
PowerPoint Creation					

## References

Please see project proposal.

## Draft Notebook(s) or Report

Please see .ipynb in the submission folder.