Research Project Summary and Code

Part of academic research is communicating your findings in a clear, concise, and compelling manner. These are skill sets that can be learned through deliberate practice, and researchers typically begin to build these skills during the pre-doctoral training. For post-doctoral fellows, my goal is to further enhance your skill sets (with coaching that will push your growth) so that by the end of the postdoctoral training period, you will be able to independently and confidently write clear, concise and compelling manuscripts and grant proposals.

To understand your starting point in this process, please complete the following assignment.

1. Use a research project that you completed for which you developed a statistical method. Write a brief summary of your work that addresses the questions below. Use LaTeX, 8.5" x 11" paper, at least 0.5" margins, at least 11 point font. The text can be single-spaced and use at most 2 pages.
    - What is the motivating scientific problem for your work?
    - What methods existed to try to address this scientific problem and what were their limitations?
    - What is the method/model you developed to overcome these limitations?
    - Show the numerical performance of your method/model in simulation studies and/or real data analysis. Compare its performance with existing methods, and explain how your method outperforms those methods. Explain the simulation study and/or real data analysis as needed for clarity.
    - Explain possible next steps for future research that builds on your findings.
2. Provide a link or a file to executable code from any research project (it may different than the one above, and can be in any coding language. However, I should be able to open it easily). My interest is to see your coding practices. I only need to see one file.