HOMEWORK SET #4

EE 503 — Assigned: 10 February 2025
Dr. Oliver Adigun — Due: 17 February 2025

Instructions: This homework assignment consists of a single problem.

Task: Find at least 30 pieces of approximately "independent and identically distributed" numerical data that arguably comes from a normal probability density function.

Constraint: The data cannot come from the Internet or from a book or from any third party. Collect it yourself from your surroundings. Do not collect it from people or otherwise monitor or measure anyone. Feel free to weigh or clock or otherwise *accurately measure and record* some real-world phenomena. Then justify your claim that the data is approximately normal. This will involve three steps:

Step 1: Data collection. Do your own work. Don't just produce numbers. Argue why we should believe that you did not just make up the numbers. You can include justification data as an appendix. This can include photos or any other documentation.

Step 2: Software analysis. Load the numerical data into SPSS or R or some other statistical software program (preferably SPSS). Plot the data as a histogram against a normal curve. Test the normality assumption with a PP plot *and* with any other SPSS or other software-based normality tests you choose. Be sure to compute and report the sample mean and the sample standard deviation of your data set.

Step 3: Write it up. Turn in a terse **typed** (not hand-written) summary of your findings on one page. This should consist of a terse summary of how you collected the data and the types of tests you used and their results. It must also include the plot of your data against an ideal normal curve. Attach your software results as separate appendices and summarize your appendix headers on the report page. No credit for hand-written projects.

Warning: **Do NOT interact with humans in any way** as part of working this homework. For instance: Do not poll or measure people in person or online or tape them or record them.