YITIAN YAO, ZHIJUN WANG, QING WANG, Department of Computer Sciences, Mathematics, and Engineering, Shepherd University, Shepherdstown, WV, 25443, and DAVID J. KLINKE, Department of Chemical Engineering, and Dept. of Microbiology, Immunology & Cell Biology, West Virginia University, Morgantown, WV, 26506. Software development for data analysis using multiple-curve graphs through excel spreadsheets.

Data analysis plays an essential in research involving large simulation and experimental data. The graphs that generated by data collections can be convenient and helpful for researchers to analyze the trend of samples. However, spending large amount of time on handling and graphing data collections can carry the concentration away from the researchers. This study focuses on programming a software application with simple user interface to handle data and generate graph in Excel Spreadsheets. For instance: transferring 300 data sets from .txt files to Excel workbooks, then pick X% (dynamic percentage according to user input) confidence section points and median value for each group of files to generate three curves with discrete data points. Human can repeat this task 10 times within a short period of time, but the work become tedious when there are hundreds of folders containing thousands of data files. Therefore, generating graphs using programming method can dramatically improve the efficiency of work. In addition, human can easily make some mistakes after working on plenty of repetitive task. The method of developing software can greatly increase the accuracy of data transferring and analysis.