Matplotlib – The Power of Plots



## Background

This respository apply a Python Matplotlib to visualize a real-world pharmaceutical data. The data is sourced from Pymaceuticals Inc., a burgeoning pharmaceutical company based out of San Diego. Pymaceuticals specializes in anti-cancer pharmaceuticals. In its most recent efforts, it began screening for potential treatments for squamous cell carcinoma (SCC), a commonly occurring form of skin cancer.

The analysis used a complete data from their most recent animal study in two datasets in CSV format. Data set one is [Mouse\_metadata.csv](http://localhost:8888/edit/The-Power-of-Plots/Resources/Mouse_metadata.csv) which includes 248 mice identified data with SCC tumor growth were treated through a variety of drug regimens, and their Sex, Age, and Weigh identified. The other dataset is [Study\_results.csv](http://localhost:8888/edit/The-Power-of-Plots/Resources/Study_results.csv) file which includes the results of the study in each columns Mouse ID , Timepoint, Tumor Volume (mm3), and Metastatic Sites.

The purpose of this study was to compare the performance of Pymaceuticals' drug of interest, Capomulin, versus the other treatment regimens. The analysis also generated all of the table and figures needed for the technical, and top-level summary report of the study. For this analysis both datasets imported, merged, cleaned and the aggregate data displayed into Python Pandas DataFrames, visualized in Matplotlib, and other libraries used in order to make a statistical analysis. The project is conducted in Jupyter notebook to showcase, and communicate the analysis report the following link is created: Jupyter Notebook

## Observable Trends

* The distribution of sex of male and female was almost equal for testing.
* Tumor volumes seemed to be larger with Infubinol and Ceftamin, almost doubling in size to Capomulin and Ramicane treatments.
* The correlation between the weight of the mouse and the tumor size was relevant. It proved true that the greater the weight of the mouse the larger the tumor size.