

## INTERNSHIP: INTERIM PROJECT REPORT

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|-----------------------------|--|
| Internship Project Title    | Shakchi Prasad   |
| Name of the Company         | RIO-125: Classification Model - Build a Model that Classifies the Side Effects of a Drug |
| Name of the Industry Mentor | TCS iON  |
| Name of the Institute       | Debashis Roy   |
|                             | PrepInsta Pvt Ltd.   |

|             |            |                     |   |                                      |
|-------------|------------|---------------------|---|--------------------------------------|
| Start Date  | End Date   | Total Effort (hrs.) | Project Environment                           | Tools used                           |
| 05-07-2023  | 12-07-2023 | 27                  | Remote  | Youtube, Google Sheets, Kaggle, etc. |
| Milestone # | 2          | Milestone:          | Creating the dataset required for the project |                                      |

## TABLE OF CONTENT

1. Acknowledgements
2. Objective
3. Description of Internship
4. Internship Activities
  - 4.1 Self-learning
  - 4.2 Data-set building
5. Industry Project
  - 5.1 Dataset

## Acknowledgements

I would like to thank TCS for the opportunity to be a part of the RIO – 125 Program. I am grateful for the staff at TCS for diligently curating the RIO experience and looking over my work on the same. Lastly, I am greatly thankful to my Institute – PrepInsta Pvt. Ltd. for creating this opportunity and allowing me to be go on this journey.

## Objective

To build a Classification model that classifies the Side effects of a Drug.

## Description of Internship

The TCS RIO – 125 is an initiative that allows people to complete an internship of 30 days over the course of 3 months, comprehensive of 125 hours. At its base it is designed to teach the intern to build an industry grade project in the above timeframe.

### Internship Activities

#### Self-learning:

- Continued self-learning the classification algorithms.
- Decided to use ensemble model
- Learnt all the ways of data pre-processing

#### Dataset building:

- Curated data from various websites, specifically Kaggle.
- After data gathering, went forward with data cleaning and pre-processing
- Built a clear data set with appropriate features required for the model.

### Industry Project – dataset

#### Dataset:

It was gathered over the course of a few days in the project and thoroughly pre-processed to convert into the dataset shown below, i.e., a form that would be most affective to train the model on its details of effectiveness and make the correct prediction of its side effects (Mild, Severe, Negligible, etc.)

The dataset used in this project has 3106 records and the following columns:

1. Drug Name
2. Rating
3. Effectiveness
4. Condition
5. Side-effects

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|   | urlDrugName      | rating | effectiveness        | condition                              | sideEffects         |
|---|------------------|--------|----------------------|--|---------------------|
| 0 | enalapril        | 4      | Highly Effective     | management of congestive heart failure | Mild Side Effects   |
| 1 | ortho-tri-cyclen | 1      | Highly Effective     | birth prevention                       | Severe Side Effects |
| 2 | ponstel          | 10     | Highly Effective     | menstrual cramps                       | No Side Effects     |
| 3 | prilosec         | 3      | Marginally Effective | acid reflux                            | Mild Side Effects   |
| 4 | lyrica           | 2      | Marginally Effective | fibromyalgia                           | Severe Side Effects |

The above snippet showcases the first 5 columns of the dataset. The entire dataset can be found at the link provided underneath.

Dataset:

<https://docs.google.com/spreadsheets/d/110dJ2mMBMKkT8OWt1h1QCdBXwWTvysx93R-lcwOSQ9A/edit?usp=sharing>