



# MACHINE LEARNING PROPOSAL

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## *Startup Checklist*

### Overview of Business, Preparedness and Objective

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- ☐ **1.** This is a public university which has a common IT and AV support teams to provide technical support for end users. The university has no experience and expertise in using or developing machine learning. This is Initial stage.

There are some data available within online system, with no machine learning expertise and no business strategy.

Business outcome is to predict number of cases per day. The reason is the number of cases allows better deployment of services and manpower to settle cases. The outcome is cost and time savings.

### Major stakeholders for this project

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- ☐ **1.** IT and AV Technical Staff
- ☐ **2.** IT Central University Authority
- ☐ **3.** Shared Services IT Head
- ☐ **4.** Private Cloud University

### Machine Learning QuAM or model building

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- ☐ **1.** The Model will be built to predict number of cases daily (Mon – Fri). It will be a regression model with time series analysis incorporated into it.
- ☐ **2.** Model evaluation will be using RMSE or R2 metrics.
- ☐ **3.** The predicted no of cases will enable IT and AV supervisors to plan and allocate adequate manpower to serve customers.

### Data will be using to build this project

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- ☐ **1.** Currently there are online system record types of jobs performed, and the period taken to complete a job. These data can be made available from IT Central Authority who manages the online databases
- ☐ **2.** Since it is housed inside databases, data preprocessing is a must to convert them to tabular formats like csv or excel
- ☐ **3.** There is a need to collect new data since there are features like distance, waiting times not recorded.
- ☐ **4.** Data will also need to be standardized with common metrics like meters, liters, hours etc.
- ☐ **5.** If necessary, a machine learning expert will be hired as consultant and kick start Proof of Concept project to explore the possibility

### Communication with One Stakeholder

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- ☐ **1.** We will plan to give a presentation to Shared Services IT Head since the person oversees the whole administration and operation
- ☐ **2.** We will source for external data to design an experiment to simulate a case almost similar to the current business problem
- ☐ **3.** We will use proper metrics like Root Mean Square (RMSE) or Coefficient of determination ( $R^2$ )
- ☐ **4.** Graphs like line charts, scatterplots and bar charts will be useful to support the presentation