



Experimentation Mondays

**Human friendly Machine Learning**

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# Why do we need that?

Businesses and governments have a lot of data, and want to learn about structures and patterns in the data. This might include being able to make predictions extending from the data. There are myriad tools to help people design Machine Learning workflows. However, there does not appear to be a simple.

## **General-purpose**

Machine Learning toolkit that is accessible via web browser and REST.

## **General-Goal**

1. Create a REST API for machine learning algorithms. A REST API would make it easy to use Machine Learning algorithms, since users would not have to install or maintain the Machine Learning software.
2. Create the interactive page with user understanding UI.
  - a. UI includes interface for interacting with data, sequencing ML tasks, and accessing output
  - b. UI might include basic visualizations to give users insight into data (histogram, etc)

# Roadmap

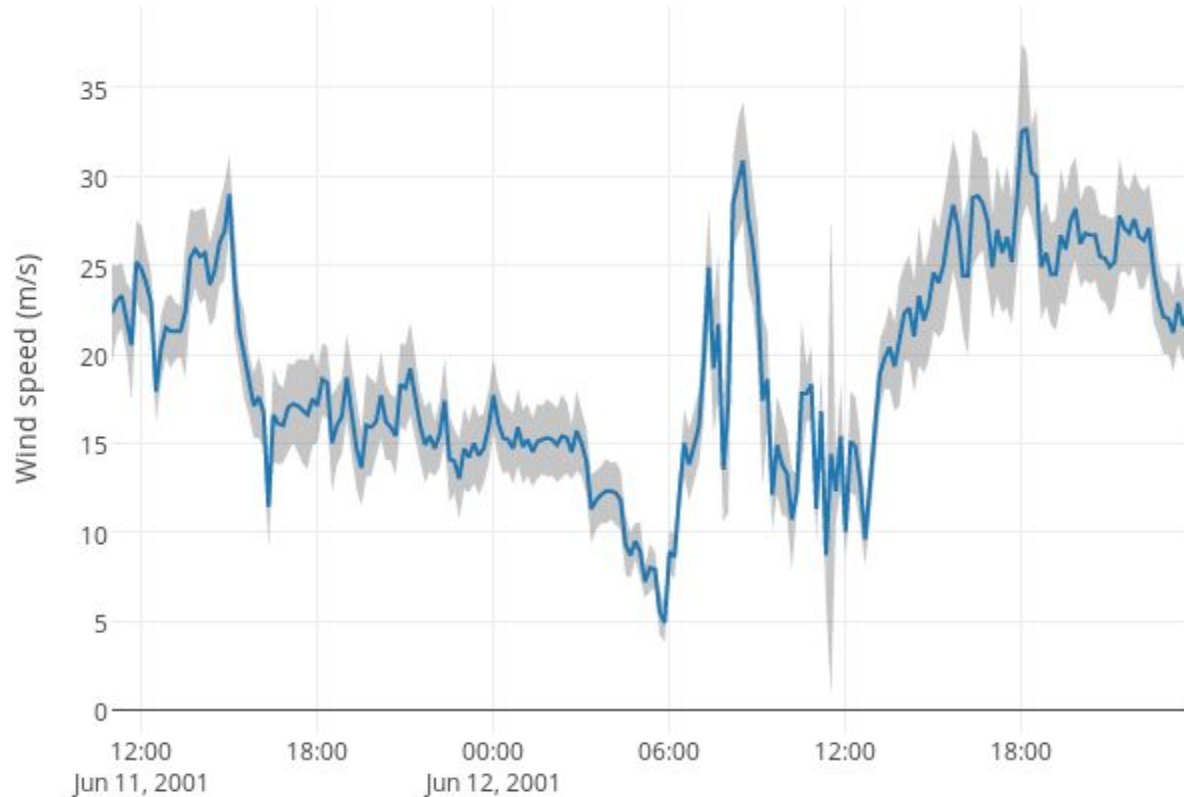
1. Create draft document describing idea
  - a. <http://piratepad.net/RKOG0fLeda>
2. Move **draft document** to Github repository (open license)
3. **Sketch out REST API** using design-first API tool
  - a. seek feedback on API design from Orange3 developers, APInf team, ML community
4. **Research/choose framework(s)** and libraries to commence development
  - a. REST framework
  - b. UI framework (if applicable)
  - c. Visualization framework (if applicable)
5. **Scaffold initial REST API**
6. Create **wireframe** of User Interface
7. **Prototype** initial User Interface using UI framework

# Sample time-series data



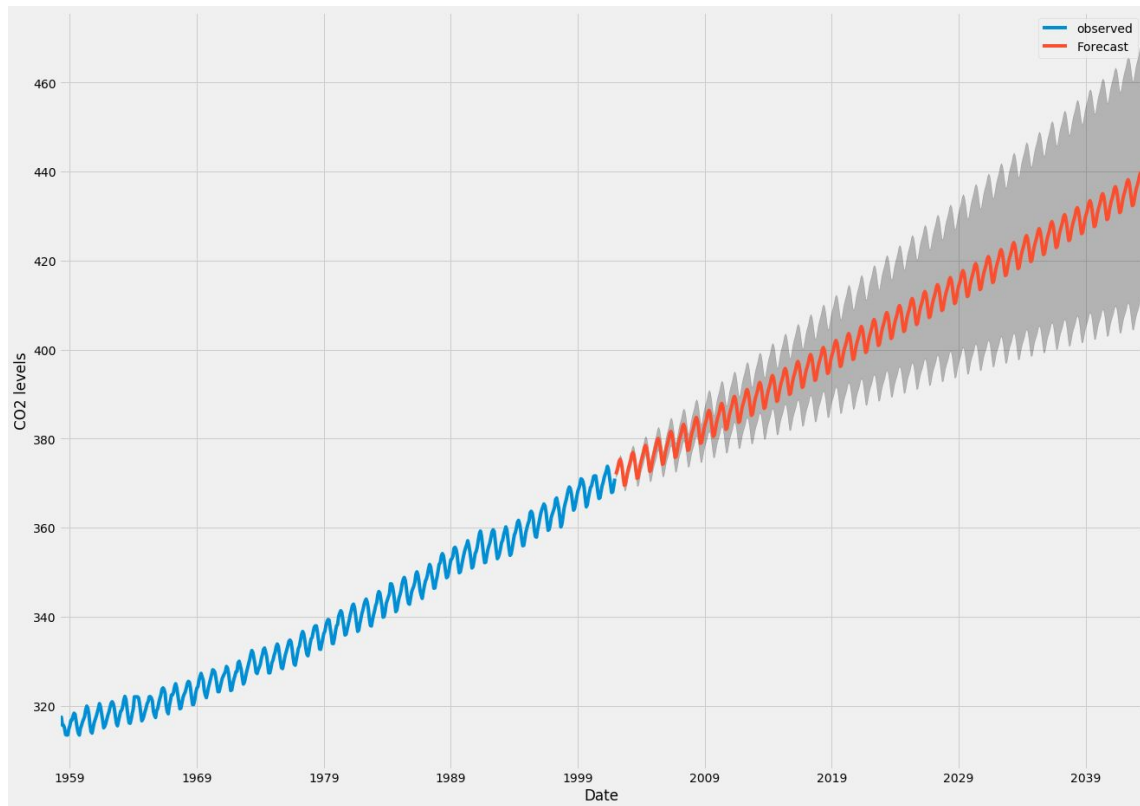
Source: <https://plot.ly/pandas/time-series/>

# Time-series with error margins



Source: <https://plot.ly/pandas/time-series/>

# Time-series forecasting



Source: <https://www.digitalocean.com/community/tutorials/a-guide-to-time-series-forecasting-with-arima-in-python-3>