

Remote Internship Opportunity

We are looking for remote interns for a 6-month internship within a joint project between [Prof. Shehab Ahmed](#) and [Prof. Luigi Vanfretti](#) on developing a cloud-based repository and performing data analysis on the impacts from COVID-19 on the world-wide electrical power networks. The internship involves developing a cloud-based repository, an API to access the data, and to perform analysis of the data using Machine Learning methods.

Internship Information

- The candidate must satisfy the requirements below.
- The candidate will be formally affiliated with the [King Abdullah University of Science and Technology](#) and receive a salary from this institution if selected for the internship.
- The candidate will collaborate with the research teams at [KAUST](#) and [RPI](#) during this project.

Candidates Requirements

- Must be enrolled or recently graduated from a BSc, MSc or PhD program in Electrical Engineering, Computer Science or Applied Mathematics or similar.
 - Must be familiar with statistics, probability and machine learning concepts.
 - Must be familiar with the Python programming language and able to utilize different Python libraries for data manipulation and machine learning.
 - Has experience using version control systems, in particular GIT.
 - Preferable if the candidate has experience in using cloud based technologies, such as Amazon AWS.
- For students in the United States, the candidate MUST be an American Citizen or permanent resident. This is because of the labour laws restricting hiring students within the USA that are under student visas, OPT or similar.
- For students outside the USA, you should check similar restrictions within the country you are studying.

Project Scope

RPI's ALSETLab and KAUST have established a project that develops machine learning applications for electrical power grids. Due to COVID, we are looking for an intern that can help us with the following:

- A. Creating a cloud-based repository with all publicly available data from around the world from electrical network operators. The repository should have mechanisms to automatically or semi-automatically update and curate data while the COVID pandemic continues.
- B. Create an API to efficiently access the data for analysis using Python and within a cloud-based environment.
- C. To analyze the data and find similarities and differences on the impact of COVID on electrical power demand. This should leverage state of the art statistical and machine learning techniques, and explore signal processing as well as network science methods.
- D. To analyze electrical load (consumption) forecasting errors and use state-of-the art machine learning methods to improve on the existing forecasts by leveraging information on human behavior and decision making information (e.g. by combining Natural Language information from Twitter with the actual measured data).
- E. To implement a dashboard on the cloud-based solution that would allow us to analyze new data using the most promising methods identified.

More information and how to apply

Please send your CV to Prof. Shehab Ahmed (shehab.ahmed@kaust.edu.sa) and Prof. Luigi Vanfretti (luigi.vanfretti@gmail.com).

For logistics and questions about the hiring process please contact Prof. Shehab Ahmed (shehab.ahmed@kaust.edu.sa), and for more details on the project scope please contact Prof. Luigi Vanfretti (luigi.vanfretti@gmail.com).