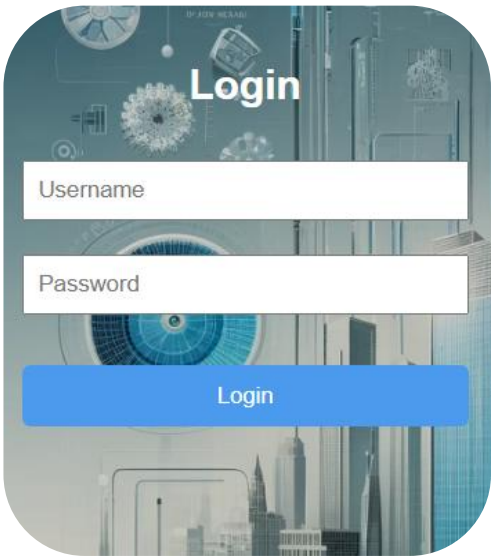
User Manual

Introduction

Welcome to use the HVAC energy prediction system. In this Website, you can register and login your account, using it to predict the HVAC consumption yearly. You can also view the prediction record history. Hope the following instruction will help you understand how to use it.

Register and Login



Login:

To get permission of prediction, you need to log in first.

Input Username and Password to enter the system.

If your account is invalid, 'Invalid username or password' will alert

If you don't have account, please register.

Register:

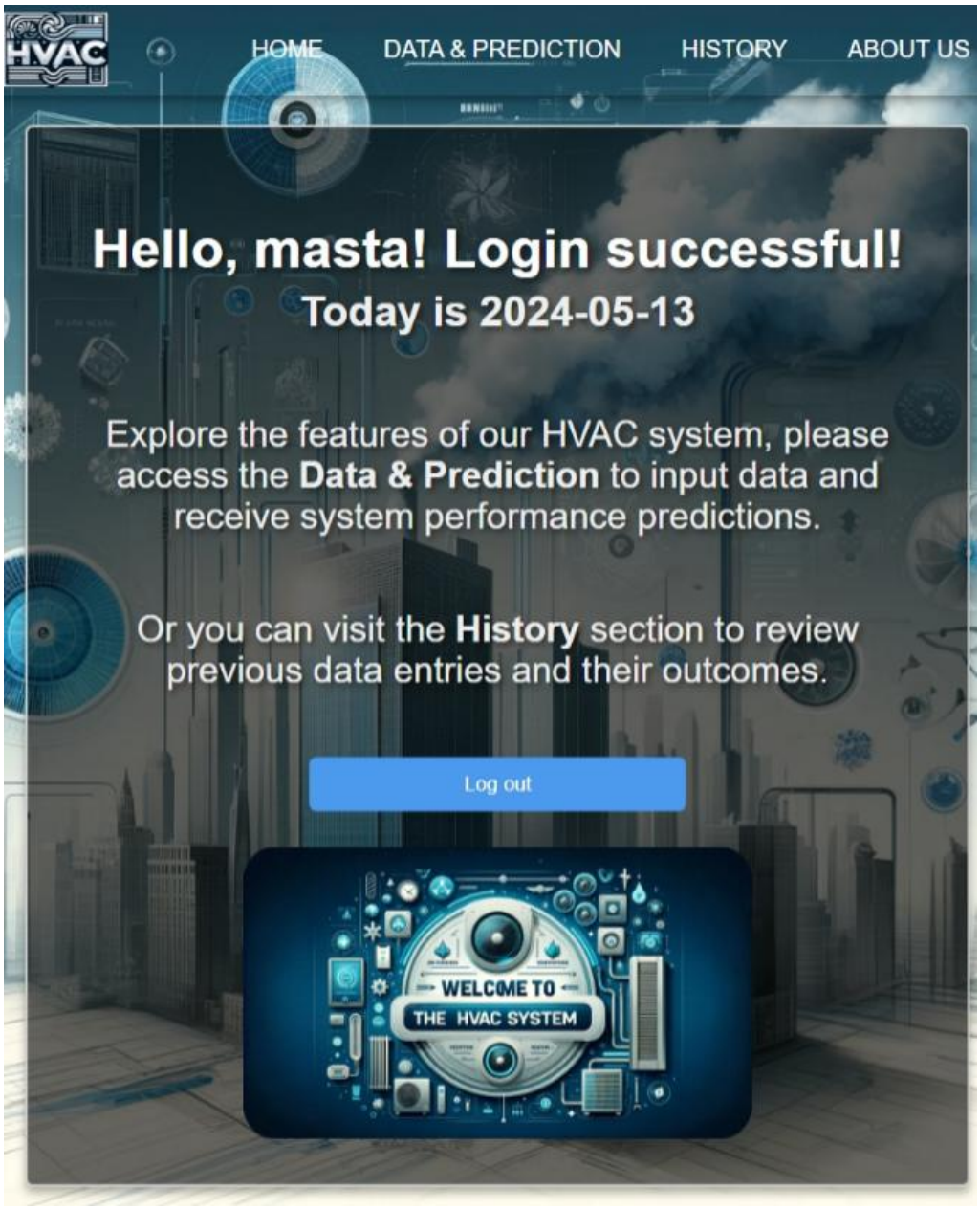
You need to type the Username, Email and Password.

Note that your email address should follow the format specification that it includes '@'.

You are not allowed to register if the username or email already exists.

Enter Home Page

When you sign in with valid account, you will see this with brief introduction in the 'Home' page.

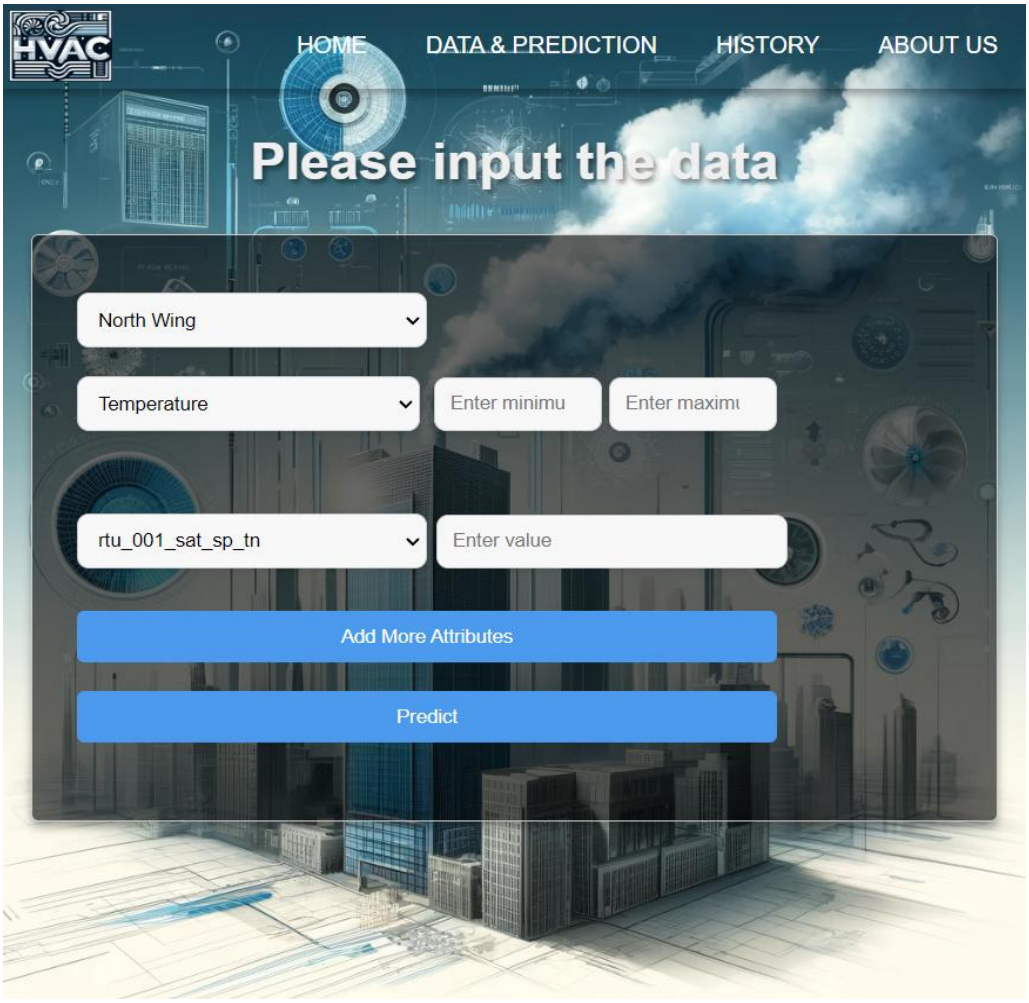


Click 'Log out' to exit the current account.

Prediction System

If you are in login state, Data & Prediction function are permitted.

In Data & Prediction, you can use this module to do HVAC prediction. First, you need to select one model from 'North Wing' and 'South Wing', which determine the type of Roof Top Unit(RTU) where RTU001 and RTU002 for North Wing, and RTU003 and RTU004 for South Wing.



Now, you should select an environment condition in 'Temperature' (measured by Celsius) and 'Humidity' (measured in relative humidity) and input the range you like.

And then, choose one feature from the drop-down box and enter the value.

If you want to append more features, please click 'Add More Attributes'. Note that if you have add duplicate features only the latest one will be recorded.

Click 'Predict' to view the prediction result.

The feature description is shown as the following table:

Name	Description
rtu_sat_sp_tn	RTU Supply air temperature set point
rtu_econ_stpt_tn	RTU Economizer set point
rtu_pa_static_stpt_tn	RTU Air pressure static set point
rtu_heating_sp	RTU Heating temperature set point
rtu_cooling_sp	RTU Cooling temperature set point

When you click the button 'Predict', you will see the chart of prediction result.

The chart presents the sum of consumption measured in kW monthly. In the top-right corner, it shows the average and total consumption for the whole year.

You can click 'Back' button return to the prediction page.

History

If you want to check prediction record, click 'History' page to see them in detail.

About us

This website is design by Team Alfa. Our vision is to predict the energy consumption of heating, ventilation and air conditioning (HVAC) systems and adjust it based on different environmental factors such as occupancy and weather changes. Key milestones and achievements of the website include helping users significantly reduce energy consumption through informed decisions and further promoting the realization of sustainable development. We emphasize teamwork and commitment to our project's success.

The website and user manual is finished by Ziyi Chen, and the built-in models are trained by Hatta Adiwidya and Elnur Alasgarov. Chutian Peng and Yuxuan Liu helped write the project reports. Siddhesh Santosh Jadhav assisted in the project.

Thanks for our team guiding teacher Brain Courtehoute, who gives us support and instructions for the project.