Interpreting the Number of COVID Infections

Keywords: Data Analysis, COVID, Hospital Beds, Web-Scraping

Project description:
• Using the reported number of daily COVID infections to judge the severity of the current pandemic situation is notoriously difficult.
• Some of the reasons why are:
  o Changes in test frequency.
  o Changes in age structure of the reported number of infections.
  o Delays in reporting throughout the week.
• Other parameters such as COVID patients occupying hospital beds are much easier to interpret, but are only available with a considerable delay.
• Under this premise, the chair of Mathematical Finance developed a model to provide a short-term forecast for hospital bed occupancy by COVID patients using both types of data and provide a more accurate assessment of the current pandemic situation, in comparison to previous months.
• The goal of this IDP is three-fold:
  o Automate extraction of model data
  o Improve the existing model tool, by automating the model calculations
  o Improve model predictions by implementing different statistical methods

What we are looking for:
• Strong analytical and communication skills
• Keen interest in analyzing the impacts of the COVID pandemic in Bavarian hospitals
• Base knowledge in Web-Scraping
• Proficient programming skills in VBA, Python (or comparable languages).

What we offer:
• Experience with IDPs
• Regular meetings and input from your supervisor
• Input from experts in the field (virologists and mathematical epidemiologists).
• Opportunity to present your results to our partners from academia
• Opportunity to continue your work as a working student after your IDP has finished.

Interested?
Please send an e-mail with CV, academic transcript and your preference for this project to michel.kschonnek@tum.de.

Questions?
In case of any IDP-related questions, please contact Michel Kschonnek (michel.kschonnek@tum.de or call +49 89289 17414).