FACULTY OF INFORMATION TECHNOLOGY CTU IN PRAGUE

Assignment of bachelor's thesis

Title:	Statistical modelling of Covid-19 time series
Student:	Oleh Kuznetsov
Supervisor:	Ing. Kamil Dedecius, Ph.D.
Study program:	Informatics
Branch / specialization:	Knowledge Engineering
Department:	Department of Applied Mathematics
Validity:	until the end of summer semester 2022/2023

Instructions

From the information-theoretic viewpoint, the COVID-19 pandemic is distinctive by an unprecedented amount of publically available data sets, mostly in the form of time series. The goal of this bachelor thesis is to perform statistical analyses of selected national time series. In particular:
1) study the properties of selected time series, e.g., their (non)stationarity, presence of outliers, seasonality etc.,
2) propose models that sufficiently well explain the evolution of the selected time series,
3) perform ex-post analyses of the results, evaluate predictions.
4) If possible, try to detect interesting phenomena (e.g., new waves, change points due to vaccination etc.) and connect them with government decisions or other reasons.

Electronically approved by Ing. Karel Klouda, Ph.D. on 11 February 2021 in Prague.