**Accuracy Award Approach Description**

# **Entry 1 - Approach**

Please provide a short description of the approach used to calculate the point estimates for the selected countries. The description should contain (1) the data processing steps, (2) the methods and models used, and (3) the time it took to calculate the point estimates.

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| 1. Filter and transform (scale) the data from tour\_occ\_nim\_linear 2. Use ARIMA models for every country and then predict out of sample. The order of the arima models is determined from a grid search through different parameter settings. 3. Coding: anywhere between half a day and a day, computation time: 3-5 minutes (parallelized calculation) |

# **Entry 2 - Approach**

Please provide a short description of the approach used to calculate the point estimates for the selected countries. The description should contain (1) the data processing steps, (2) the methods and models used, and (3) the time it took to calculate the point estimates.

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| 1. Filter and transform (scale) the data from tour\_occ\_nim\_linear 2. Use ARIMAX with the fourier transform of the time series as regressor. Models for every country and then predict out of sample. The order of the arima models is determined from a grid search through different parameter settings. 3. Coding: anywhere between half a day and a day, computation time: 3-5 minutes (parallelized calculation) |

# **Entry 3 - Approach**

Please provide a short description of the approach used to calculate the point estimates for the selected countries. The description should contain (1) the data processing steps, (2) the methods and models used, and (3) the time it took to calculate the point estimates.

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| Using Google Trends   1. Transformation of indicator data. Then, download data from google trends containing various different search terms and location of searches for each country individually, adding up to 11 lags to each variable 2. Competition between following models: SVM Radial Sigma, Gradient Boosting Machine, Random Forest, Bayesian Regulated Neuronal Net, Xtreme Gradient Boosting Tree, SVM Linear Kernel, SVM Polynomial Kernel 3. Including cleaning up and so reaching something near a production stage: a full 40h week |

# **Entry 4 - Approach**

Please provide a short description of the approach used to calculate the point estimates for the selected countries. The description should contain (1) the data processing steps, (2) the methods and models used, and (3) the time it took to calculate the point estimates.

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# **Entry 5 - Approach**

Please provide a short description of the approach used to calculate the point estimates for the selected countries. The description should contain (1) the data processing steps, (2) the methods and models used, and (3) the time it took to calculate the point estimates.

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# **Short description of the Team – area of expertise (optional)**

Please provide a description of the team and all team members, your area of expertise and contact information.

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