PUBLICATIONS AND/OR PATENTS

Patents:

☐ Chattopadhyay, I. (2022). "Methods and systems for genomic based prediction of virus mutation" (Patent No. WO2022108965A1). World Intellectual Property Organization. URL: https://patents.google.com/patent/WO2022108965A1

Abstract: A method includes receiving a first plurality of aligned genomic sequences of a virus from a database. The aligned genomic sequences have a first common background. The method includes calculating a Qnet for each genomic sequence of the first plurality of aligned genomic sequences. The Qnet for each sequence is calculated by calculating a conditional inference tree for each index of the aligned genomic sequences using other indices in the aligned genomic sequences as predictive features, and calculating predictors for indices that were used as predictive features when calculating the conditional inference tree for each index.

Relevant Publications:

☐ Huang, Yi, and Ishanu Chattopadhyay. "Universal risk phenotype of US counties for flu-like transmission to improve county-specific COVID-19 incidence forecasts." PLoS computational biology 17, no. 10 (2021): e1009363. DOI: https://doi.org/10.1371/journal.pcbi.1009363

☐ Dhanoa, J., Manicassamy, B. and Chattopadhyay, I., 2018. "Algorithmic Bio-surveillance For Precise Spatio-temporal Prediction of Zoonotic Emergence." arXiv preprint arXiv:1801.07807. Preprint DOI: https://arxiv.org/abs/1801.07807

☐ Chattopadhyay, Ishanu, Emre Kiciman, Joshua W. Elliott, Jeffrey L. Shaman, and Andrey Rzhetsky. "Conjunction of factors triggering waves of seasonal influenza." Elife 7 (2018): e30756. DOI: https://doi.org/10.7554/eLife.30756

☐ Li, Jin, Timmy Li, and Ishanu Chattopadhyay. "Preparing For the Next Pandemic: Learning Wild Mutational Patterns At Scale For For Analyzing Sequence Divergence In Novel Pathogens." medRxiv (2020): 2020-07. Preprint DOI: https://doi.org/10.1101/2020.07.17.20156364

☐ Chattopadhyay, Ishanu, Kevin Wu, Jin Li, and Aaron Esser-Kahn. "Emergenet: Fast Scalable Pandemic Risk Assessment of Influenza A Strains Circulating In Non-human Hosts." (2022). Preprint DOI: https://doi.org/10.21203/rs.3.rs-2336091/v1