

[NOTE: This file is NOT BLINDED and includes all identifying information.]

## 1. Manuscript Title

**Generalizability and Explainable Framework for AI-Driven Influenza Forecasting using Multi-National Surveillance Data**

## 2. Authors and Affiliations

- **First Author** : Lee Chuel-Won
  - Affiliation: RAQA Team, Huinno Co., Ltd., Seoul, Republic of Korea
  - ORCID iD: 0000-0002-9798-563X
- **Corresponding Author** : Lee Chuel-Won
  - Affiliation: RAQA Team, Huinno Co., Ltd., Seoul, Republic of Korea
  - ORCID iD: 0000-0001-9798-563X
  - **Mailing Address** : 3F, 19 Apgujeong-ro 79-gil, Gangnam-gu, Seoul 06011, Republic of Korea
  - **Phone** : +82-10-2067-2442
  - **Email** : this14@naver.com

## 3. Running Title

- XAI for Multi-National Flu Forecasting

## 4. Funding Sources

- None

## 5. Conflict of Interest

- The author declares that they have no conflicts of interest.

## 6. Data Availability Statement

- The complete code used for model training, forecasting, and explainability analysis (including SHAP) is publicly available on the project's GitHub repository at: <https://github.com/this14/OPHRP>.
- The aggregated, anonymized multi-national surveillance data, alongside auxiliary meteorological and search trend data used to generate the results in this study,

are also included in the repository or available upon reasonable request to the corresponding author.

## **7. Ethical Approval Statement**

- This study utilized publicly available, aggregated, and de-identified data from the Korea Disease Control and Prevention Agency (KDCA) and public data portals. Therefore, this study was deemed exempt from Institutional Review Board (IRB) approval and informed consent was not required.