

INFORMATION OF THE DOCTORAL THESIS

Thesis title: RESEARCH SOME FORECASTING MODELS CHOLERA BASED ON DATA MINING AND SPATIAL ANALYSIS OF GIS TECHNOLOGY.

Speciality: Information System

Code: 9.48.01.04

Ph.D. candidate: Le Thi Ngoc Anh

Scientific supervisors:

1: Nguyen Hoang Phuong, Associate Professor, Ph.D.

2. Hoang Xuan Dau, Ph.D.

Training institution: Posts and Telecommunications Institute of Technology

NEW FINDINGS OF THE THESIS

1. Propose a method for cholera forecast based on using data mining techniques (association rules and linear regression, classification).
2. Propose models based on Random Forest regression method for short-term forecast of cholera and effect evaluation of climate and geographical factors.
3. Propose a GIS based cholera forecast model.

APPLICATIONS, PRACTICAL APPLICABILITY AND MATTER NEED FURTHER STUDIES

APPLICATIONS

- The results of thesis as an important input in the decision-making process of the preventive healthcare.
- The proposed forecasting models in the thesis is the foundation provide health information as a public service so that the community responds positively.

FURTHER STUDIES

- Research will continue to upgrade models to become a complete decision-support system for forecasting epidemics in the health sector. The decision-support system consists of five components: computer systems, databases, model, knowledge data, and user interface. Model and database are the components that have been developed by the thesis.

- Continue to add data over a larger period to increase accuracy and refine the model. Research integrates models to further explain spatial, geographical, human-to-human transmission and integrates the use of epidemiological models.
- Ensemble methods such as Average or Advisor Perceptron should be investigated.

**Confirmation of representative
Scientific supervisor**

PhD. Candidate

Assoc. Prof. NGUYEN HOANG PHUONG

LE THI NGOC ANH