Editorial

# Overview of Artificial Intelligence in Medical Entomology and Its future

## Introduction

Medical Entomology (ME) [1] is operating through Artificial Intelligence (AI) [2] powered surveillance, methods of genetic controls, and pest control maintenance/management based on the climatic condition and focusing and controlling VBD spread due to higher temperatures. AI is making revolution in the field of entomology by various new techniques and procedures [3] like computer, machine learning technique, automatic identification of vectors and insects, monitoring closely and its behavior wise also. AI will manage the pest control in the agriculture field, controlling the diseases causes by vector, and biodiversity related research is to be motivated / accelerated via recognition of images. Nevertheless, AI reduces the man power, accuracy in the results in the medical or any other field researches and also in ecological studies. Medical entomology teaching in many Universities, and Colleges in India. [4, 5] ME is also an important subject in the medical curriculum in India. [6]

## Application of Artificial Intelligence in Entomology [1]

### Application of AI in entomology as follows:

**Vector or Pest Control in the area Agriculture:** AI helps in the reducing the quantity of insecticide to control the vector or pest in the agricultural field. Also helps to insecticides to be apply in the targeted places, and most cost-effective. By these ways, we have to make the sustainable pest control management.

**Identification of vector/pest and maintenance:** AI is used to write the Convolutional Neural Networks (CNN) to analyze the images of insects and to identifying them. Using this AI technology we have to count the mushroom files then and there and control them in a systematic manner. [7]

**Taxonomy and its classifications:** Identifying the morphological features like antennae and wing patterns of the insects can identify and based on their characteristics we have to classify insects/species with accurately.

**Study related to behavior and ecological:** [8]

Nowadays AI helps to monitoring, tracking, and analyzing the movement of insects in the environment in both indoor and outdoor areas. Furthermore, AI can also helpful to analyze the behavioral changes of the insects. This will predict the health issues and respond to environmental stressors.

**Digital Method in the research:**

This method is very much useful identification of insects, its types by 3D image (Example: X-ray) analysis method. By this way creating a big size of insects' museum collection digitally.

**Benefits of Artificial Intelligence in entomology:** [9]

By AI, the efficiency has to be increased, then the identification of species will be improved, and surveillance of a particular population which was in remote area. The process of collection is also accurate and in fast mode, big datasets would be stored and we can retrieve whenever need.

**Artificial Intelligence trends in future:** [1]

**Prediction Model:** Artificial Intelligence (AI) has used to predict what is the status of insects' population in a particular area? Whether the distributions of insects will change due to climatic conditions or not?

**Digital Model:** AI is very much useful in the forming and helping to digitalization, to analyze and catalog very huge entomological collections.

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