

# Immune System Modeling by Genetic Algorithms and Studying its Ability to Preserve Diversity of Antibodies Population

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## **Abstract**

Vertebrate immune system is generally a distributed, high adaptable detection system that identifies and neutralizes pathogenic intrusions. One of its confusing characteristics is that the immune receptors (antibodies) are able to bind to pathogens that they have not been "trained" to recognize. It is thought that this ability is due to a broad coverage of the pathogen space realized by antibodies that can be produced by immune system [1]. In this paper, a model for immune system based on genetic algorithms to survey ability and speed of immune system in producing the diversity is presented. The model indicated that immune system can find semi-optimum answers, even, in very complex conditions.