IITB-Monash Research Academy

An Indian-Australian research partnership

Indian Institute of Technology Bombay | MONASH University

Project title: Exploring Relational Learning and its applicability to Sensor Networks

Project number: IMURA0088

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Research Academy theme/s

List only the research academy theme/s that is relevant to the project

1. **Advanced computational engineering, simulation and manufacture**

The research problem

The research is concerned with Tracking Dynamics Using Sensor Networks and will be primarily focussed on minimizing the communication (or equivalently maximizing the lifetime of the Network) using machine learning and optimization techniques. Since dynamic boundary tracking involves both spatial and temporal estimation, statistical relational learning seems a natural fit.

Project aims

The aims of the project include

1. To logically+mathematically formulate and evaluate the problem of minimizing the communication using sensor networks.
2. To contribute to algorithms that will maximize the lifetime of sensor networks.

Expected outcomes

Highlight the expected outcomes of the project

1. Algorithms and models for maximizing the lifetime of sensor networks.

Which of the above Theme does this project address?

Highlight the Theme from the above list that this project will address. Feel free to nominate more than one.

Advanced computational engineering, simulation and manufacture

How will the project address the Goals of the above Themes?

The research is focussed on the integration of Artificial Intelligence methods(logic) and Machnie learning methods(statistical). Statistical Relational Learning is an integration of the two broad areas and can be used for solving the problems stated above.