Project Title:	Latent factor analysis in MML Bayesian nets	
Project Number	**IMURA0396**	
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Research Academy Themes:

Highlight which of the Academy's Theme(s) this project will address?
(Feel free to nominate more than one. For more information, see www.iitbmonash.org)

1. <mark>Advanced computational engineering, simulation and manufacture</mark>
2. Infrastructure Engineering
3. Clean Energy
4. Water
5. Nanotechnology
6. Biotechnology and Stem Cell Research

The research problem

Define the problem

We use the Minimum Message Length (MML) principle to combine MML latent factor analysis (Edwards &Dowe, 1998) with MML Bayesian nets with discrete and continuous variables (Comley&Dowe, 2003, 2005). Following Visser, Dale, Dowe et al. (2012), we will be able to uncover previously unknown (or hidden) attributes within Bayesian networks - such as new latent variables which both summarise environmental conditions in malaria-prone areas and also can explain types of incidence of malaria.

Project aims

Define the aims of the project

Expected outcomes

Highlight the expected outcomes of the project

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

Describe how the project will address the goals of one or more of the 6 Themes listed above.

Capabilities and Degrees Required

List the ideal set of capabilities that a student should have for this project. Feel free to be as specific or as general as you like. These capabilities will be input into the online application form and students who opt for this project will be required to show that they can demonstrate these capabilities.

Good at or interested in mathematics, able to program