



Math Club

presents

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Using Concept Lattices in a Hospital Environment

Abstract: Many Real Data Sets contain latent relationships of data attributes which are useful for making decisions and predictions about the future. For example, consider a clinic database of Vancouver Coastal Health, where the objects represent “patients” and the attributes represent “medical conditions”. The discovered patterns of visitations to different departments of the hospital are the stopovers made by individual patients. A reasonable example would be that “30 percent of pregnant women who visit the gynecology department also visit the ultrasound clinic.” Given the huge volume of patient visits, the challenging task at Vancouver Coastal Health is keeping track of these visits and locating patients within the hospital. Association Rules meeting the minimum threshold requirement could be used to determine the concentration (density) of latent relationships and location of patients. In this presentation, we will introduce the notion of lattices to build the plausible medical conditions a patient may be experiencing. We will also attempt to define the closure of the measurements meeting the minimum threshold requirements. Using Concept Lattices we will generate a Hypothesis Space to classify new instances of possible medical conditions.

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Monday, October 26, 4:00pm
Room C1425, Abbotsford

All students, faculty and staff are invited to attend.