**Optimizing Grooming of Ski Trails**

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Every winter, a few faculty members at Hamilton take part in grooming the ski trails on campus, otherwise known as Nordic Trails. I was approached by them with a problem to minimize the total distance covered to groom the whole trail. The problem was modeled as an Integer Program (IP). The model was later translated into Python code and solved via Gurobi optimizing software. The solution found by the program was estimated to save about a third of groomers’ best time and about a half of their average time it took to groom the trails in the past.