

INTRODUCTION

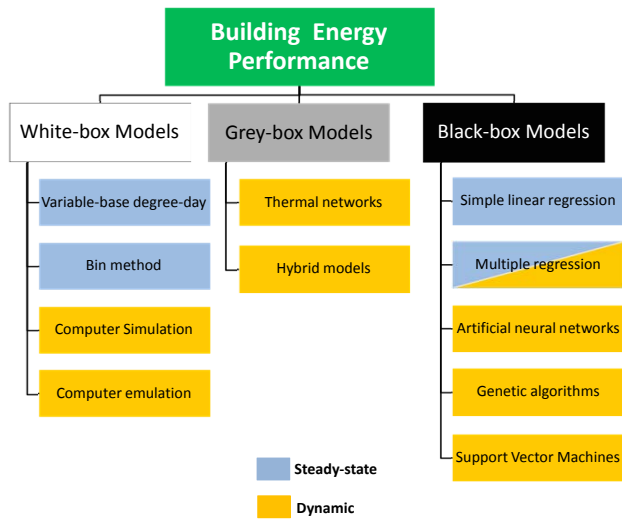
Motivation: Optimization of HVAC control requires an accurate and rapid prediction of buildings thermal loads

RESEARCH QUESTION

Can historical building performance data be used to determine thermal loads of commercial buildings in an effective and efficient manner?

AIM & OBJECTIVES

- Development of a novel modelling approach for determining the heating and cooling energy consumption of commercial buildings.
- Ability of being assembled rapidly as well as deployed easily with minimum commissioning and maintenance effort requirements.
- Scalable to any commercial building.



TESTBED BUILDINGS

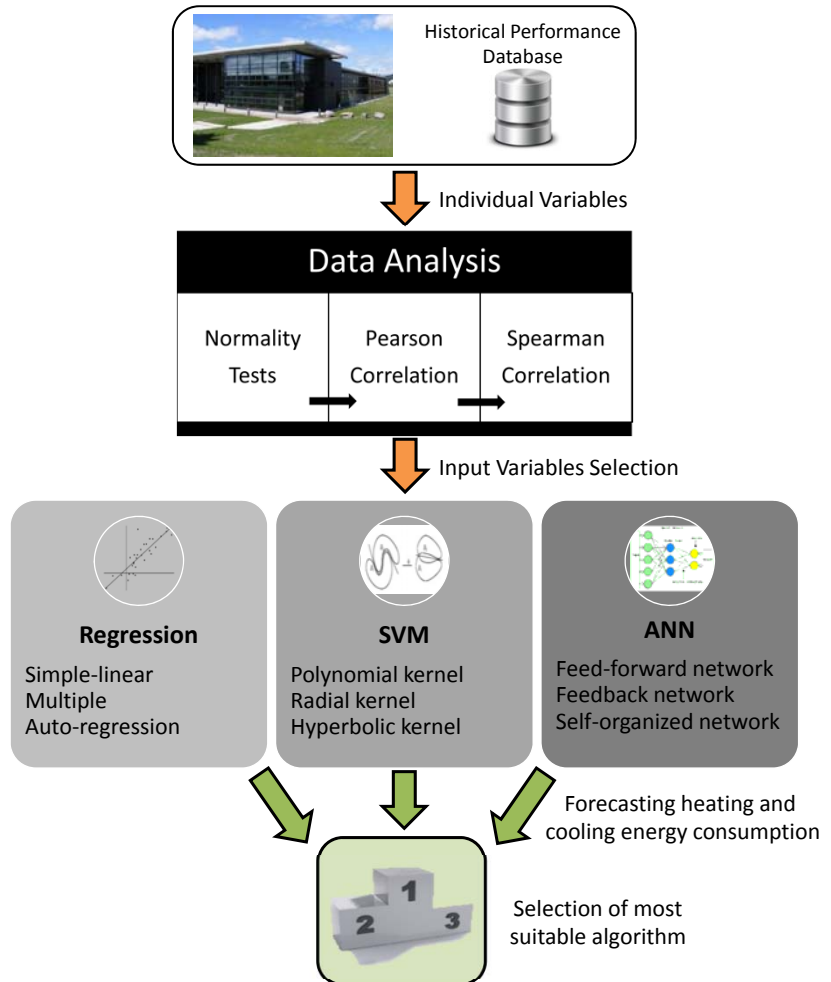


NIMBUS, CIT, Cork

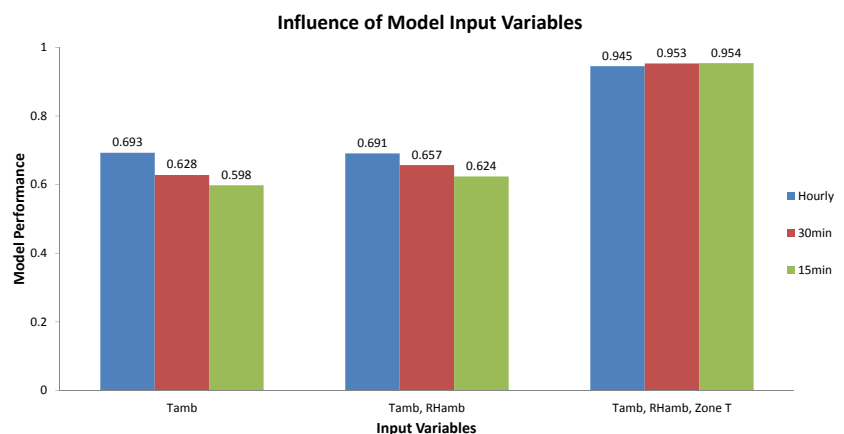
SLLS, UCD, Dublin

Both buildings are fully monitored using advanced sensors and meters to record and control HVAC performance and thermal comfort conditions throughout.

METHODOLOGY



PRELIMINARY RESULTS



FUTURE WORK

- Development of SVM & ANN models
- Transition to “real” building data
- Comparison of “synthetic” VS “real” datasets
- Introduce the model to the second testbed building

ACKNOWLEDGEMENT

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