*Economic Data Science – Analytics/Applications

Instructor: Thomas Russell

There is a large and growing demand for students who can understand and use machine learning algorithms to answer policy-relevant questions in economics. Currently, these skills are among the most marketable skills a student can have.

The Department of Economics is now offering a fourth year sequence in data science. The sequence is intended for students who want to learn more about machine learning algorithms and their practical applications in economics and policy analysis.

The sequence is divided into two courses:

1. ECON 4708: This course will introduce students to the most popular prediction algorithms from machine learning, and will demonstrate "off-the-shelf" applications of these algorithms to address questions in economics. The course will also introduce programming in R and will show students how to use Jupyter Notebooks to organize and annotate code (no programming experience is necessary!). After each new topic, students will see step-by-step applications of the material to datasets used in published papers in economics, as well as datasets from popular online machine learning data repositories.

2. ECON 4709: This course will demonstrate how machine learning algorithms have been adapted by economists and used to assist in the estimation of causal effects and to evaluate the impact of counterfactual policies. The main references for the course will be recently published papers or working papers, and the material will take students near the frontier of research. The major evaluation item will be a term project where students will apply the material in class to answer their own research questions. Students will further develop their skills in R, and will also be taught how to use popular collaboration tools like Git and GitHub.

Interested students are encouraged to contact the Department of Economics for more information

Course Delivery: In-person on campus

Carleton University

Department of Economics

For more information, find us at carleton.ca/economics/courses