## STATS 2025/4025 Methods in Applied Statistics

Meeting time M-W 8:40-9:55 am, 602 Hamilton

David Madigan, <u>david.madigan@columbia.edu</u> Office hours: by appointment

TA: Susanna Makela smm2253@columbia.edu

Pre-requisite: applied linear regression analysis (STAT 2024) or equivalent

Introduction:

study design, models, methods, results, conclusions; sampling distributions, tests and confidence intervals computer packages

Linear Models

Logistic Regression.

Measuring performance of binary classifiers.

General linear model

Generalized linear models.

Generalized additive models.

Dealing with heterogeneity.

Multilevel models.

Tree models.

Temporal corelation in regression.

Spatial correlation in regression.

Nonparametrics

Clustering.