

# Introduction to 760

## Machine Learning and Data mining

Patricia Riddle

# Lecturers

Pat Riddle – [pat@cs.auckland.ac.nz](mailto:pat@cs.auckland.ac.nz)

Office Hours – email for appointment

open door policy,

but might be hard to find

Office – 303S-490

Ian Watson– [ian@cs.auckland.ac.nz](mailto:ian@cs.auckland.ac.nz)

Office Hours – email for appointment

Office - 303S-493

# Structure of Pat's part

- Introduction – 26/7-27/7
- Neural Networks – 28/7-2/8
- Learning Sets of Rules – 3/8
- Evaluating Hypothesis and Experimental Design – 4/8-9/8
- Genetic Algorithms – 10/8
- Ensembles – 11/8
- Bayesian Learning – 16/8-17/8
- Reinforcement Learning – 18/8 – 23/8
- Swarm Optimization – 24/8-25/8,30/8,31/8
- Guest Lecture – Sept 1st

# Structure of Ian's part

- Lectures featuring recent applications in a range of ML techniques
- ~3 weeks of Ian's lectures
- ~3 weeks of group presentations

# Books for course

Machine Learning, Tom Mitchell, McGraw Hill 1997  
Short term loan

Data Mining: Practical Machine Learning Tools and  
Techniques with Java Implementations (The Morgan  
Kaufmann Series in Data Management Systems),  
I. Witten, Morgan Kaufmann

Neither books is required, but they may be helpful if you  
are having trouble with the lecture material

# Structure of Marks

20%	1 Assignment,	Sept 1 <sup>st</sup>
20%	2 Assignment,	Oct 23 <sup>rd</sup>
60%	Exam	

# Assignment 1

- You will be given a dataset and asked to look for patterns in it.
- You can use any tool Weka, R, Brute

# Assignment 2

- Group presentations
- Group report – 10% final grade
- Individual reports – 10% final grade



# Practical and Theory Pass

- You need to pass both the practical and theory part of this paper.

- Please to not plagiarize:

<https://www.auckland.ac.nz/en/about/teaching-learning/academic-integrity.html>