CGSC 4605/5605 HYPERDIMENSIONAL COGNITIVE MODELS

Course	CGSC 4605/5605 *Hyperdimensional Cognitive Models*
Instructor	Mary Kelly
Term	Fall
Email Address	Mary.Kelly4@carleton.ca
Office Location	Dunton 2213 (in person) https://carleton-ca.zoom.us/my/animus.lab (online)
Office Hours	By appointment

COURSE DESCRIPTION/INSTRUCTOR'S STATEMENT

An introduction to the fundamentals of hyperdimensional computing (HDC), also known as vector-symbolic architectures (VSAs), and their application to computational cognitive modelling and artificial intelligence. By the end of the course, you will be able to:

- Describe the linear algebra of vector-symbolic architectures
- Implement vector-symbolic architectures in Python
- Construct a cognitive model or simple agent using a vector-symbolic architecture

EVALUATION

The coursework consists of attendance and participation, Python programing exercises based on readings and seminar discussions to be completed in groups, and a term model and/or term paper.

TEXT

No textbook is required for the course. Readings, slides, and recorded lectures will be provided through the course website.