Cognition Fundamentals – Course Iterations:

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# – 2023 Academic Year Iteration Suggestions:

Block B – Visual Perception, Attention & memory

Must:

* Start-off with a connection to biological neural networks as a primer
  + Foreshadow Transformer Networks to immediately excite and create connection to End of cognition
* Convert lectures to self-study material
* De-integrate cogntion 🡪 separate flowchart creation assignment for reinforcement Learning & object detection
* Explanation of how to make a model of the human cognitive system
* Present an array of processing algorithms which are used to explain human visual perception

Should:

* Consider moving cognition t week 1:
  + Students didn’t really quite know what was happening next with regards to computer vision and robotics; having the
  + Would easy setting up the ICT environment
* Include emergence; particularly emergent behaviour and how it flows from reinforcement learning
  + <https://towardsdatascience.com/creating-emergent-behaviors-with-reinforcement-learning-and-unreal-engine-4cd89c923b7f>
  + <https://jewlscholar.mtsu.edu/items/89677915-d101-4dcc-a33a-9727301b0d94>

Could:

* Set-up a tutorial in python to do a visual perception experiment; preferably with object detect; ask alican

Might:

* SomePoint

Block C – Auditory System & Cognitive Models of Language Learning

Must:

* Make connection from primary auditory cortext to secondary auditory cortex to Broca’s and Wernicke’s area more explicit.

Should:

* Companion to the book with:
  + Definitions
  + Illustrations to assist paragraphs

Could:

* Set-up a tutorial in python to do a auditory perception experiment; preferably in conjunction with cognitive models of language learning using the CHILDES database.

Might:

* SomePoint