Human and Machine Intelligence Seminar
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Speaker: Alan Yuille
Bloomberg Distinguished Professor
Cognitive and Computer Science
Johns Hopkins University

Date: Friday, November 17, 2017
Time: 11:00AM - 12:30pm
Location: Monroe Hall 130
Title: Representing Objects by Binary Visual Concept Encoding

Abstract: This talk will update progress on a research program whose goal is to develop hierarchical architectures with the same strong performance abilities as deep networks but which are also able to model the flexibility and adaptiveness of biological visual systems. These architectures are intended to be simpler and more explainable, require little supervision and few training examples, and to be adaptive to situations/environments which they have not encountered. In particular, we give new results for unsupervised learning of objects and object viewpoints, one- and few-shot learning for discriminative tasks, and the ability to deal with adversarial attacks. We conclude by speculating on how vision algorithms should be evaluated given the increasingly complexity of visual tasks and the impracticality of getting sufficient data for training and testing.

Bio: Alan Yuille received the BA degree in mathematics from the University of Cambridge in 1976. His PhD on theoretical physics, supervised by Prof. S.W. Hawking, was approved in 1981. He was a research scientist in the Artificial Intelligence Laboratory at MIT and the Division of Applied Sciences at Harvard University from 1982 to 1988. He served as an assistant and associate professor at Harvard until 1996. He was a senior research scientist at the Smith-Kettlewell Eye Research Institute from 1996 to 2002. He was a full professor of Statistics at the University of California, Los Angeles, as a full professor with joint appointments in computer science, psychiatry, and psychology. He moved to Johns Hopkins University in January 2016. His research interests include computational models of vision, mathematical models of cognition, medical image analysis, and artificial intelligence and neural networks.

Seminar Organizers: Paul Humphreys (Dept. of Philosophy) and Vicente Ordonez (Dept. of Computer Science) through the IHGC | Institute of the Humanities & Global Cultures