



# Hamilton Institute

## Deep Learning and its exciting impact on computer vision

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**Abstract:** The field of computer vision began when Marvin Minsky at MIT in 1966 asked an undergraduate student to "spend the summer linking a camera to a computer and getting the computer to describe what it saw". Between now and then hardware developments (digital cameras and memory) have made the first half of the task - taking, storing, displaying and manipulating images - trivial even to the least technical of undergraduates! However, the AI part of Minsky's challenge, interpreting an image's generic content, until 2012 had remained stubbornly out of reach.



IN CS, IT CAN BE HARD TO EXPLAIN THE DIFFERENCE BETWEEN THE EASY AND THE VIRTUALLY IMPOSSIBLE.

<http://xkcd.com/1425/>

Then in 2012 a break through reinvigorated work in the area. Researchers took advantage of yet more hardware developments (GPUs), large human labelled datasets and neural networks with many layers to build a system that could automatically recognize objects in images at something approximating human performance. This achievement has been one of the biggest successes of deep learning. I will review these exciting recent developments in visual object recognition and conjecture what this means for the field of computer vision.

**Venue:** Seminar Room (317), 3rd Floor Eolas Building, North Campus, Maynooth University

**Time:** 6.30pm – 7.30pm

Travel directions are available at [www.hamilton.ie](http://www.hamilton.ie)

