



# RESEARCH2REALITY

Shining a light on research & innovation.

## James Elder: need title from Daniel

An Interview with **James Elder**, Human/Computer Vision Scientist, York University. Vision: Science to Applications (VISTA)

We're at a very critical stage in scientific development right now, in terms both of neuroscience and flourishing techniques to better understand the brain, but also in terms of computational science, in particular AI. We really are living through an extraordinary time, where we're learning from the brain how to design truly intelligent machine systems. So VISTA really represents that convergence of science and technology.

### What's the "big idea" of your research?

The big idea that kind of keeps me dreaming is how we go from our current state and AI, which is one where we can build applications for very specific purposes, to a more general kind of intelligence that we see with humans, and achieving that goal is going to involve a much better understanding of ourselves.

We now have computer vision systems that can compete with humans on very narrow tasks, for example face recognition or object recognition. We don't yet have computer vision systems that can compete with humans in more general visual reasoning. A lot of us working on that problem, I think will see fruits of that labour within the next five to ten year time frame.

One example use case is, you know, there's a lot of excitement about autonomous driving. We're not going to really see autonomous driving for many years, but what I do hope we'll see are computer vision systems that are embedded in our streets that keep people safer by recognizing hazards.



So, if there's an elderly person trying to cross the street for example, and there's a car coming on a potential collision course, there'll be the kinds of signaling - both the infrastructure and the vehicle, and to the pedestrian - that prevents that kind of accident. I think that's a real realizable technology that we will see in the next 10 years.