

I will present a view of the breadth of activities, recently completed, ongoing or just hot off the presses, in my lab. The menu includes research projects in visual cognition, autonomous driving, visual psychophysics, active vision, visual saliency, eye fixation control and more. But that is not my main goal. Believe it or not, there is an underlying theme that connects all of it, whose presentation is my main point. That theme is that attention is a far more important element of artificial intelligence than has been evident to date. In our view, attention is the process by which the brain controls and tunes information processing, and this control enables functional generalization. Our work in developing a theory of attention has always had as its primary goal the ability to make testable predictions for new knowledge of human visual processing, and in this regard, we have been quite successful. Since it is increasingly common for AI methods to have neural inspiration, this predictive power may point in the direction of new AI approaches.