

## Victor Boutin - Reverse Engineering the visual system

Work in our chair has focused on the development of deep network models that are better aligned with human perception, more interpretable, more robust and more sample efficient than current AI systems. We have developed novel visual reasoning tests to benchmark AI models against humans and demonstrated the limitations of existing systems. In collaboration with the DEEL team, we have developed multiple explainability methods that have pushed the state of the art. In this talk, we will highlight one representative project comparing drawings generated by modern generative AI models against those of humans. Our results suggest that the gap between humans and machines has started to close since the introduction of diffusion models but that qualitative differences remain – in part explainable by discrepancies in visual strategies between humans and current AI systems.

