

Neuromorphic Computing

Spiking Neural Networks and Beyond

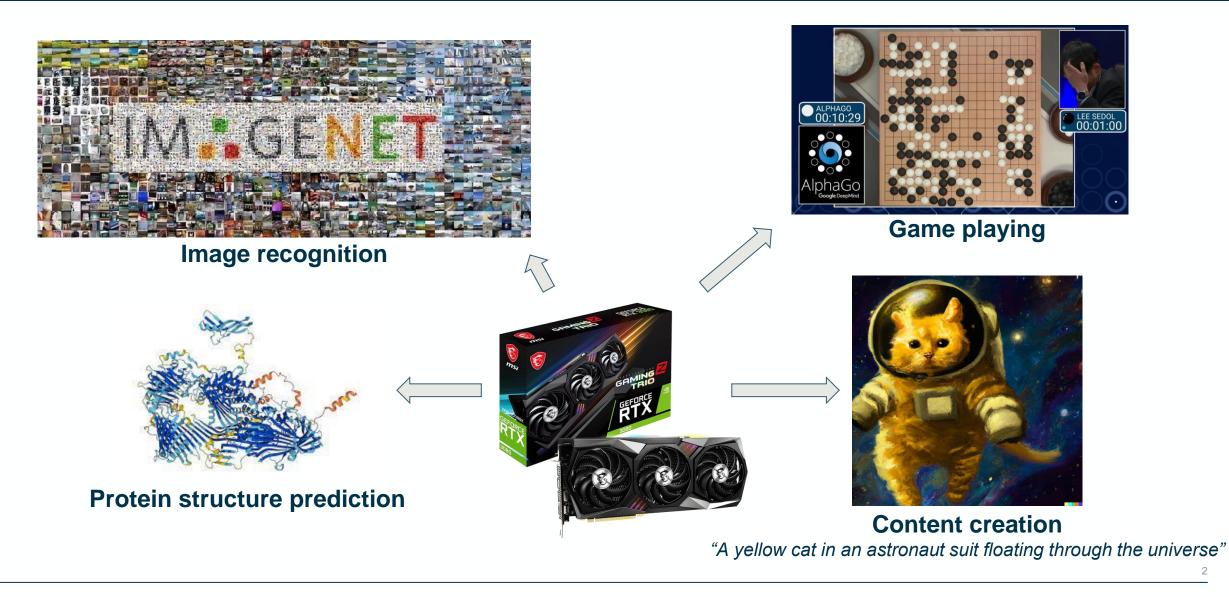
Alexander Hadjiivanov Dominik Dold Ren ADVANCED CONCERT BUT

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The recent (ongoing) Al revolution





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Al: a key technology for space?





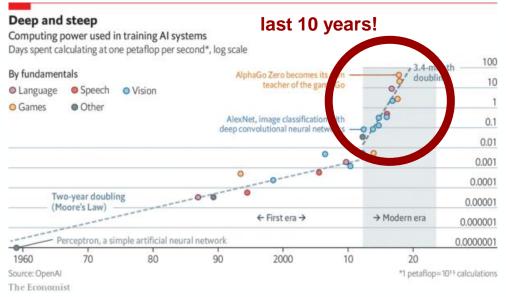




The tip of the iceberg: problems under the surface...



Power hungry





Data hungry

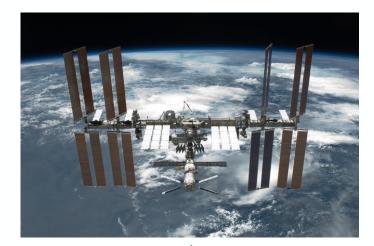
Static & specialized

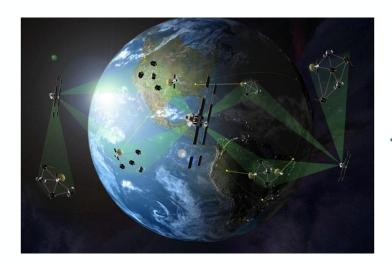


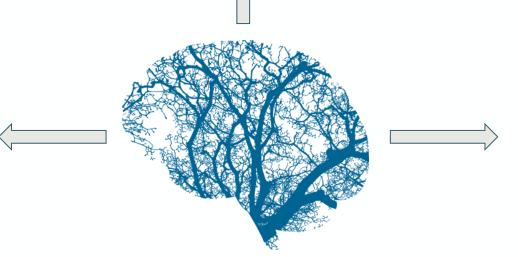
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Back to the drawing board: brain-inspired Al for space







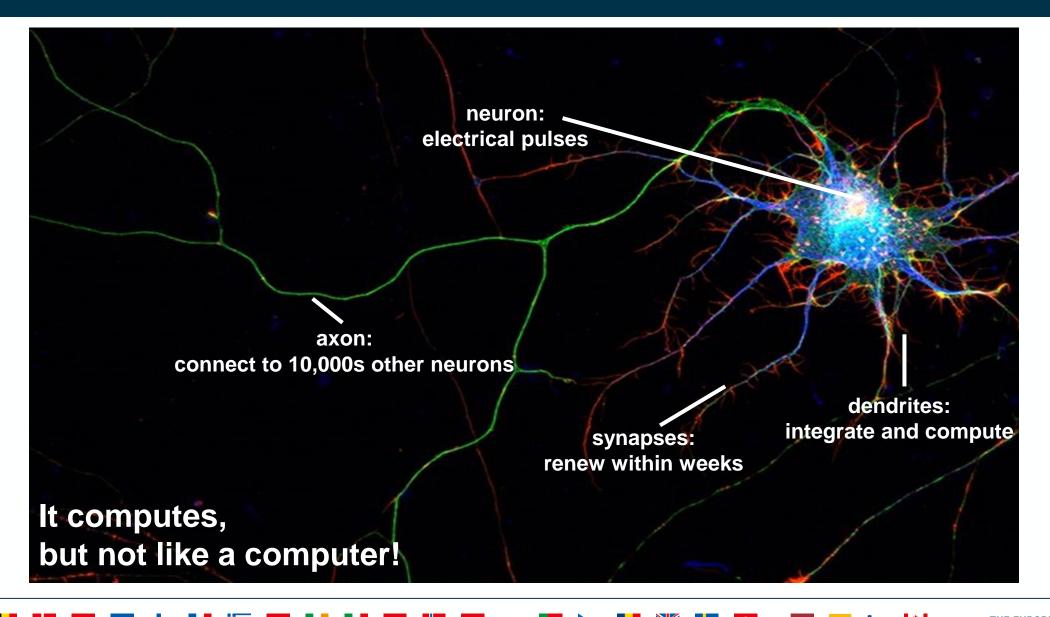




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Efficient AI: a question of architecture





A new paradigm: computing like the brain

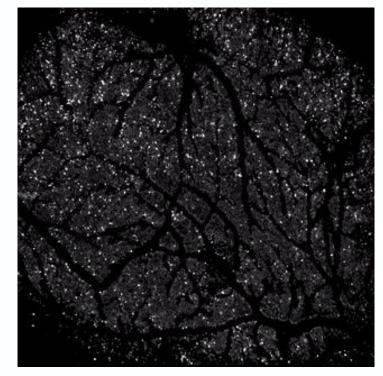




Adaptive



Robust



Dynamic





Power-efficient

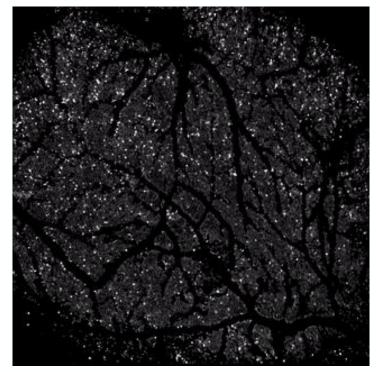


Continual learning to adapt to novelty





Adaptive Robust









Power-efficient

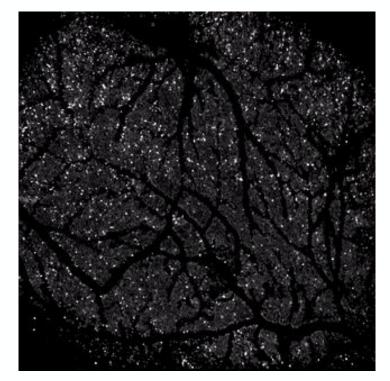


Sparse computing for sparse resources





Adaptive Robust



Dynamic

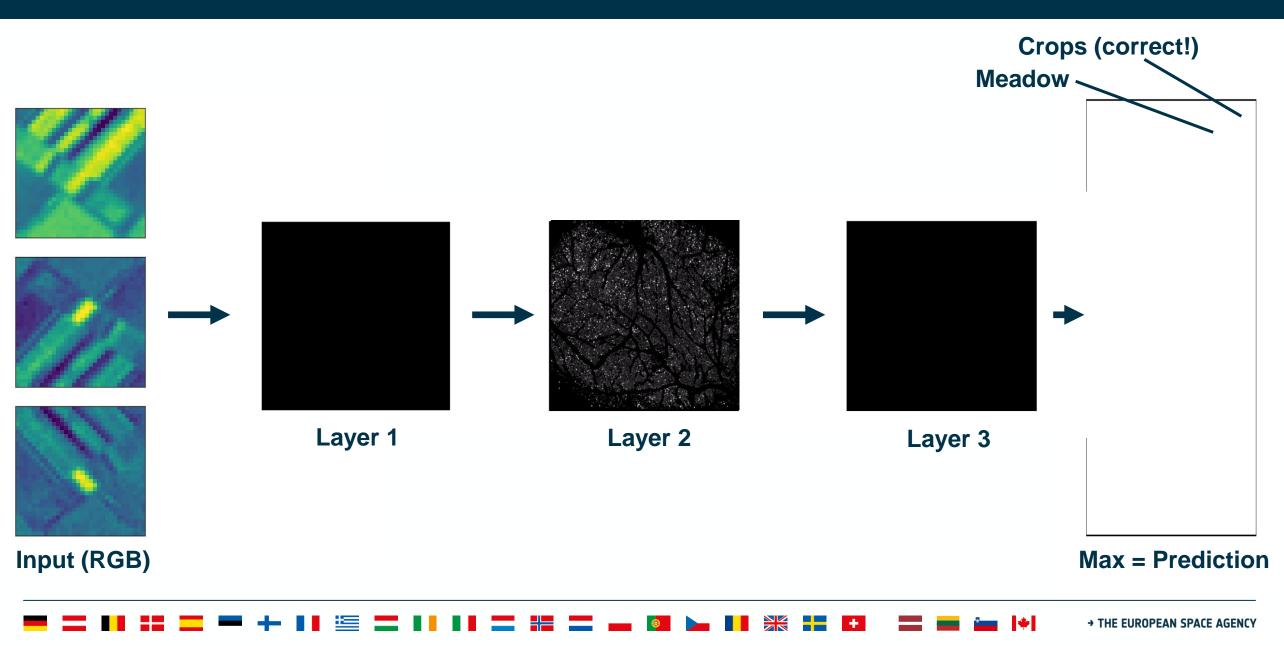




Power-efficient Sparse

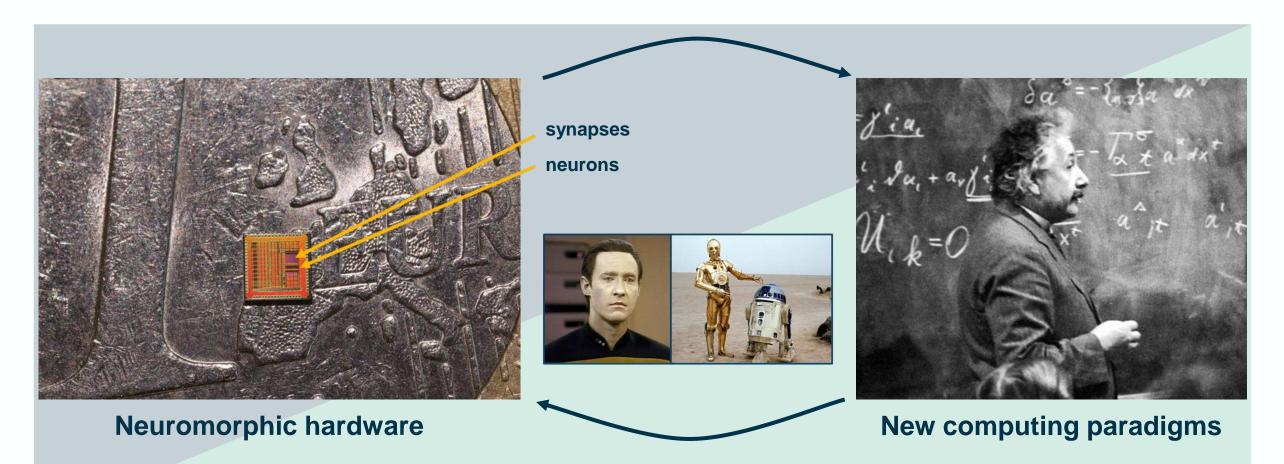
Brain-like computing for Earth Observation





Neuromorphics: the substrate of AI in 20 years?





Thank you!