

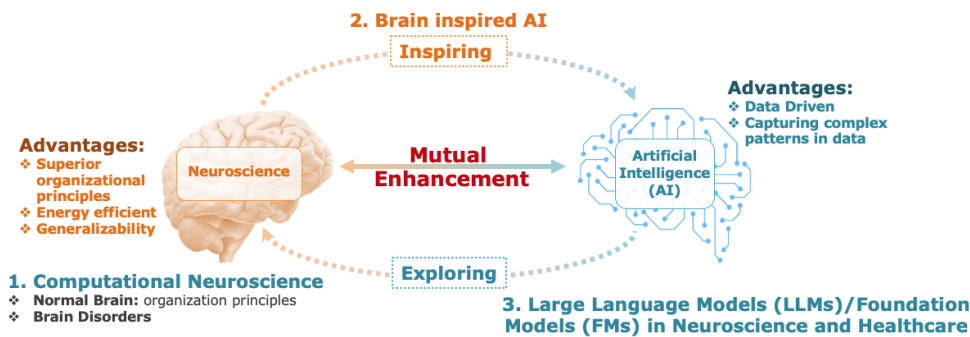
# Medical AI and Brain-Inspired Intelligence

- AI for Early Dementia Diagnosis
  - AI models on multi-modal neuroimaging (sMRI, fMRI) for early detection and staging of Alzheimer's disease and Lewy body dementia
- Multi-modal Medical Data Analysis
  - LLMs and foundation models integrating imaging, clinical text, and health records for diagnosis, prognosis, and decision support
- Brain-inspired AI Model Design
  - AI models following the structural organization principles and functional properties of brain networks, toward generalizable AI

**Techniques:**

- Deep learning (transformers, graph neural networks, diffusion models); LLM / foundation-model adaptation; multi-modal fusion; brain network analysis; transfer and self-supervised learning; explainable AI

- Mutual Enhancement of Neuroscience and AI: Brain-Inspired Models for Efficient, Generalizable Medical Intelligence
- LLMs and Foundation Models for Multi-modal Medical Data Analysis and Early Dementia Diagnosis



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- Funding agencies: NIH, NSF

**Keywords:**

Medical AI; Alzheimer's disease and dementia diagnosis; neuroimaging (sMRI / fMRI); brain networks; brain-inspired AI; large language models; foundation models; multi-modal learning; trustworthy and interpretable AI

**Publications and Recognitions:**

[Link to my publications](#)

- Selected venues: NeurIPS, ICML, ICLR, AAAI, EMNLP, MICCAI, IEEE Trans. on Medical Imaging, IEEE/CVF WACV, IEEE ISBI, Alzheimer's & Dementia
- Reviewer: ICML, AAAI, MICCAI, IEEE TMI, Medical Image Analysis, Cerebral Cortex, IEEE ISBI, IEEE/CVF WACV