We are seeking a Postdoctoral Research Fellow to conduct impactful, innovative, interdisciplinary research in developing clinical decision support systems for cerebral aneurysm detection and rupture prediction. The candidate will be working on advancing the state of the art in prediction of neurological disorders using federated learning, multimodal AI, and explainable AI. We are specifically seeking a candidate with experience handling multimodal health data (mainly clinical text, and medical imaging). The position requires innovative thinking to design and implement machine learning, or algorithmic solutions to real world problems in healthcare and biomedical research, novel thinking, teamwork, and discovery in finding new approaches for analyzing massive and complex data and publishing groundbreaking results.

The initial appointment is for one year, and renewal for an additional year is expected if progress is satisfactory. The candidates will have opportunities to work with outstanding collaborators in neuroscience, engineering and medicine at University of Michigan-Flint and other collaborating institutes.

Essential qualifications:

* PhD in Computer Science, or equivalent with interest in medical imaging, clinical text processing and deep learning with a track record of publications at top-tier conferences and high-impact journals in the field.
* Strong knowledge in Machine/Deep Learning with experience in multimodal AI, federated learning, and Neuro-symbolic AI.
* Prior experience in 3D medical imaging is mandatory. However, experience in any of the following medical imaging DSA, Rotational DSA, MRA, CTA, and CT/MRI is preferred.
* Interest in solving challenges related to data fusion, federated learning, Explainability and robustness of AI models.
* Hands-on experience with Federated Learning frameworks, multimodal AI, Knowledge Graphs, and Explainable AI.
* Excellent analytical, technical, and problem-solving skills
* Excellent programming skills in Python and PyTorch.
* Excellent communication and presentation skills, including experience in communicating across discipline boundaries.
* Working in a Linux environment, with experience of shell scripting, cluster, or cloud computing.
* The successful candidate will also participate in mentoring and supervising undergraduate and graduate students engaged in design activities.

Requirements:

* Motivation letter: Describe your long-term research vision, the reason for applying for this job, and why you think you are the right candidate to fill this position (max. 2 pages).
* Curriculum vitae including the list of publications.
* At least the names and contact details of two referees.

Important Dates:

The last date for application submission is October 15,2023. The selected candidate is supposed to start work on January 01, 2024. Please apply for this position using following URL:

The campus offers very economical residential opportunities to postdocs. For questions please contact drmalik@umich.edu