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Preface

Denis Newman-Griffis[a,b], Bart Desmet[b], Ayah Zirikly[b,c], Suzanne Tamang[d] and Hongfang Liu[e]

[a]*University of Pittsburgh, Pittsburgh, Pennsylvania, USA*
[b]*National Institutes of Health Clinical Center, Bethesda, Maryland, USA*
[c]*Johns Hopkins University, Baltimore, Maryland, USA*
[d]*Stanford University, Stanford, California, USA*
[e]*Mayo Clinic, Rochester, Minnesota, USA*

AI4Function: A Growing Interdisciplinary Community

Artificial intelligence (AI) technologies are increasingly applied to drive innovation and improve care in diverse areas of medicine. In recent years, new areas of research have emerged at the intersection of AI technologies and the measurement and optimization of functional outcomes, with developments such as: (1) the use of wearable sensors to capture physical function; (2) natural language processing to analyze clinical observations of function; and (3) the development of AI-driven assistive technologies. These innovations have largely developed independently of one another, without the benefit of a common venue for researchers to share insights and exchange ideas about AI for function across disciplinary boundaries.

The First Workshop on Artificial Intelligence for Function, Disability, and Health (AI4Function) was organized and held in January 2021 to bring together members of the AI and health communities interested in function to chart the course of this emerging area of research. Seven submissions of original research were presented, together with a keynote address on the future of function in digital health research and a panel discussion on next steps for research on AI for function and disability. Workshop attendance drew from backgrounds in computer science, rehabilitation medicine, medical informatics, and others.

The Second Workshop was organized to build on the momentum of AI4Function 2020, to continue to develop interdisciplinary community around research on AI methods and applications for function and disability. Authors from all relevant disciplines were invited to submit both original research papers, for publication in the workshop proceedings, and abstracts describing work in progress or published elsewhere, for presentation in the workshop.

Eight submissions were made to the workshop, of which six were selected after rigorous peer review for inclusion in the workshop. These proceedings include the four original research papers accepted for publication in AI4Function 2021.

The workshop was held on August 20–21, 2021, as a virtual event (due to the COVID-19 pandemic) co-located with the 2021 International Joint Conference on Artificial Intelligence (IJCAI 2021). In addition to the papers included in these proceedings, the program included:

- A keynote presentation from Dr. Bambang Parmanto (University of Pittsburgh).
- A panel discussion regarding data sources and technologies for analyzing information on function and disability.

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