Dakota State University

Beadle Scholar

Masters Theses & Doctoral Dissertations

Spring 5-2023

Towards Long-Term Impact of Deep Learning Systems in Medical Imaging

Kruttika Sutrave

Follow this and additional works at: https://scholar.dsu.edu/theses

Recommended Citation

Sutrave, Kruttika, "Towards Long-Term Impact of Deep Learning Systems in Medical Imaging" (2023). *Masters Theses & Doctoral Dissertations*. 428.

https://scholar.dsu.edu/theses/428

This Dissertation is brought to you for free and open access by Beadle Scholar. It has been accepted for inclusion in Masters Theses & Doctoral Dissertations by an authorized administrator of Beadle Scholar. For more information, please contact repository@dsu.edu.



TOWARDS LONG-TERM IMPACT OF DEEP LEARNING SYSTEMS IN MEDICAL IMAGING

A dissertation submitted to Dakota State University in partial fulfillment of the requirements for the degree of

Doctor of Science

in

Information Systems

May 2023

By

Kruttika Sutrave

Dissertation Committee:

Dr. David Zeng (Chair)

Dr. Ronghua Shan

Dr. Renae Spohn



DISSERTATION APPROVAL FORM

This dissertation is approved as a credible and independent investigation by a candidate for the Doctor of Philosophy degree and is acceptable for meeting the dissertation requirements for this degree. Acceptance of this dissertation does not imply that the conclusions reached by the candidate are necessarily the conclusions of the major department or university.

Student Name:	Kruttika Sutrave		
Dissertation Title:	Towards Long-Term Impact of Deep Le	earning Systems i	n Medical Imaging
Dissertation Chair/Co-Cl	nair: David Zeng FB53FDB2AA1F41C	Date:	April 28, 2023
Committee member:	PocuSigned by: Ronglua Slian 6E11517A148D4B4	Date:	April 28, 2023
Committee member:	— DocuSigned by: Kena Spolin — 05B32D18A30E436	Date:	April 28, 2023

ACKNOWLEDGMENT

I express my heartfelt gratitude to my chair, Dr. David Zeng, whose unwavering support, guidance, and expertise have been instrumental in shaping this dissertation. I also extend my sincere appreciation to my committee members, Dr. Renae Spohn and Dr. Ronghua Shan, for their valuable suggestions, constructive feedback, and insightful comments that have significantly contributed to the improvement of this work.

I would also like to acknowledge Dr. Mark Hawkes for his continuous support and valuable advice throughout my time at DSU. In addition to my committee members, numerous individuals have inspired, encouraged, and supported me throughout my academic journey, and for that, I am deeply grateful. I would like to offer special thanks to my parents and my colleague Rajesh Godasu for their endless encouragement, love, and guidance, especially during challenging times. Their unwavering support has been a source of motivation and inspiration throughout this journey. Finally, I would like to express my heartfelt appreciation to everyone who has played a role, no matter how big or small, in making this journey possible.