MICHIGAN STATE
U N I V E R S I T Y

Yiming Deng, Ph.D.
ASNT Fellow
Associate Professor
2535 Engineering Building
East Lansing, MI 48824
(517) 884-0926
dengyimi@egr.msu.edu

September 19, 2023

RE: Certificate and Evaluation of Mr. Takuma Tomizawa's Research Visit to Michigan State University

To whom it may concern:

I am writing to formally certify and appraise Mr. Takuma Tomizawa's research visit to Michigan State University (MSU). Mr. Tomizawa, born on December 31, 1995, is affiliated with the Department of Quantum Science and Energy Engineering at the Graduate School of Engineering, Tohoku University. He joined us as a visiting Ph.D. student for a three-month stint, from June to August 2023, and was in excellent standing within our Department of Electrical and Computer Engineering.

During his time here, Mr. Tomizawa collaborated closely with my research team and me at the Nondestructive Evaluation Laboratory (NDEL). He was integral to a research project titled "In motion hybrid NDE methods for rail damage detection and classification," funded by the Association of American Railroads (AAR) and MxV Rail.

As an Associate Professor at MSU, I lead the NDEL in pioneering innovative NDE sensors and systems for industries ranging from energy to defense. The research undertakings of Mr. Tomizawa and his advisor, Prof. Noritaka Yusa, focusing on electromagnetic NDE and statistical data analysis, dovetail seamlessly with our objectives at NDEL. This synergy greatly enriched the productivity of Mr. Tomizawa's visit.

From day one, Mr. Tomizawa's commitment to the rail NDE project was evident. He not only collaborated seamlessly with our Ph.D. students and postdoc fellows but also spearheaded the creation of a robust dataset—aptly named "Tomizawa's Dataset." This dataset, amassed using new motion-induced eddy current sensors, incorporates diverse uncertainties. Our intention is to further collaborate with Mr. Tomizawa and Tohoku University, leveraging this dataset to delve deeper into the intricacies of the in-motion NDE project. I must commend Mr. Tomizawa's outstanding technical prowess, diligent work ethic, team spirit, and leadership. His active participation in our

College of Engineering

Department of

Electrical &

Computer

Engineering

Michigan State University
428 S. Shaw Lane
Rm 2120 Engineering Bldg.
East Lansing, MI
48824-1226

517-355-5066
Fax: 517-353-1980
http://www.egr.msu.edu/ece/

weekly project meetings and one-on-one sessions with me was commendable. Moreover, he had the opportunity to present his findings to the entire research group.

In summation, Mr. Tomizawa's tenure at MSU was marked by successful and fruitful collaboration and the establishment of strong personal and professional ties. I was very pleased to have him in my group and privileged to work alongside him during his visit, and eagerly anticipate future collaborative ventures between MSU and Tohoku University.

Should you require further details, please feel free to reach out to me.

Thank you.

Sincerely,

Yiming Deng, Ph.D., ASNT Fellow
Associate Professor
Electrical and Computer Engineering
Michigan State University