UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS AMERICA, INC.
Petitioner

v.

UNILOC 2017 LLC
Patent Owner

Patent No. 7,653,508

DECLARATION OF DR. IRFAN ESSA

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B. Tamura, Pasolini, and Fabio Disclose or Suggest the Limitations of Claims 3, 4, 5, 13, and 14 32

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C. Fabio Discloses the Limitations of Claims 6, 7, 8, 15, 16, 19, and 20 54

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I, Dr. Irfan Essa, declare as follows:

I. INTRODUCTION

1. I have been retained by Samsung Electronics Co., Ltd. ("Petitioner") as an independent expert consultant in this proceeding before the United States Patent and Trademark Office ("PTO") regarding U.S. Patent No. 7,653,508 ("the '508 patent") (Ex. 1001.) I have been asked to consider whether certain references disclose or suggest the features recited in claims 1-8, 11-16, 19, and 20 ("the challenged claims") of the '508 patent. My opinions are set forth below.

2. I am being compensated for the time I spend on this matter. My compensation is in no way contingent on the nature of my findings, the presentation of my findings in testimony, or the outcome of this or any other proceeding. I have no other interest in this proceeding.

II. QUALIFICATIONS

3. Below I summarize my qualifications, as set forth in more detail in my curriculum vitae, which I understand is provided as Exhibit 1003.

4. I am currently a Distinguished Professor in the School of Interactive Computing / College of Computing at the Georgia Institute of Technology, an Adjunct Professor in the School of Electrical and Computer Engineering at the Georgia Institute of Technology. I also serve as an Associate Dean of Research for the College of Computing and Director of Interdisciplinary Research Center of

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Machine Learning at Georgia Tech. Furthermore, I am a Senior Researcher/Consultant at Google Research, Mountain View, CA.

5. I hold a bachelor's degree (B.S.) in Engineering from the Illinois Institute of Technology earned in 1988. I also hold: (1) a Master of Science (S.M.) engineering degree from the Massachusetts Institute of Technology, earned in 1990, and (2) a Doctor of Philosophy (Ph.D.) degree from the Massachusetts Institute of Technology in Media Arts & Sciences, earned in 1995.

6. I am a Founding Director of the Computational Perception Laboratory at Georgia Tech, which was founded in 1996. Also, I am a Founding Member of the Aware Home Research Initiative at Georgia Tech, which was founded in 1999. Additionally, I am currently serving as the Founding Director of an Institute-wide Interdisciplinary Research Center of Machine Learning at Georgia Tech, which includes over 150 faculty from all over GA Tech, in the areas related to Artificial Intelligence, Machine Learning and Data Science.

7. My academic and research career has focused on research and teaching in the areas of data analysis and machine intelligence, including extracted information from sensory data and using it to provide actionable and intelligent information. I have researched, developed, tested, and deployed computer systems that undertake such analysis. My work has involved visual analysis and analysis of images and videos, as well as work involving systems that deal with motion

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