

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

TABLE OF CONTENTS

I. INTRODUCTION1

II. QUALIFICATIONS1

III. SUMMARY OF OPINIONS.....3

IV. PERSON OF ORDINARY SKILL IN THE ART4

V. TECHNOLOGICAL BACKGROUND5

VI. OVERVIEW OF THE '508 PATENT6

VII. CLAIM CONSTRUCTION8

 A. “Dominant Axis”8

 B. “Cadence Window”8

VIII. OVERVIEW OF THE PRIOR ART9

 A. Tamura.....9

 B. Fabio11

 C. Pasolini14

IX. THE PRIOR ART DISCLOSES ALL OF THE LIMITATIONS OF
THE CHALLENGED CLAIM OF THE '508 PATENT.....15

 A. Tamura and Pasolini Disclose or Suggest the Limitations of
 Claims 1, 2, 11, and 12.....16

 1. Claim 116

 2. Claim 228

 3. Claim 1129

 4. Claim 1232

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

Declaration of Dr. Irfan Essa
U.S. Patent No. 7,653,508

1.	Claim 3	32
2.	Claim 4	42
3.	Claim 5	47
4.	Claim 13	51
5.	Claim 14	53
C.	Fabio Discloses the Limitations of Claims 6, 7, 8, 15, 16, 19, and 20	54
1.	Claim 6	54
2.	Claim 7	67
3.	Claim 8	70
4.	Claim 15	71
5.	Claim 16	74
6.	Claim 19	75
7.	Claim 20	76
D.	Tamura, Pasolini, Fabio, and Richardson Disclose or Suggest the Limitations of Claim 5	77
1.	Claim 5	77
X.	CONCLUSION.....	80

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

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

Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.