

CERTIFICATE OF SERVICE

I hereby certify that a copy of the attached "**Declaration Under 37 CFR 1.132**" along with its "**Exhibit A**" is being served in its entirety on
Marc J. Pensabene of O'Melveny & Myers LLP
by leaving a copy at the usual place of business of the person served with someone named:

Clyde Muphoy
in Marc J. Pensabene's employment at the address listed below in the manner provided in
37 CFR 1.248:

Marc J. Pensabene
O'Melveny & Myers LLP
Times Square Tower, 7 Times Square
New York, NY 10036

on this 26th day of June 2018.

/Matthew T Byrne/

Matthew T Byrne
Attorney for Patent Owner
Reg. No. 40,934

Byrne Poh LLP
11 Broadway, Ste 760
New York, NY 10004
212-508-8800

(00196265-)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s) : Patrick PIRIM
Patent Owner : Image Processing Technologies LLC
Reexam. Control No. : 90/014,056
Filed : December 15, 2017
Confirmation No. : 1361
Patent No. : 6,959,293
Issue Date : October 25, 2005
Application No. : 09/792,436
App. Filing Date : February 23, 2001
Title : METHOD AND DEVICE FOR AUTOMATIC VISUAL PERCEPTION
Examiner : Majid Banankhah
Art Unit : 3992

Mail Stop Ex Parte Reexam
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

DECLARATION UNDER 37 C.F.R. § 1.132

Dear Examiner:

This Declaration Under 37 C.F.R. § 1.132 is in support of a Reply to Non-Final Office Action filed on June 26, 2018 in the above-referenced reexamination proceeding.

I, Alan Conrad Bovik, hereby declare that:

My Background

1. I hold a Ph.D. in in Electrical and Computer Engineering from the University of Illinois, Urbana-Champaign (awarded in 1984). I also hold a Master's degree in Electrical and Computer Engineering from the University of Illinois, Urbana-Champaign (awarded in 1982).

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2. I am a tenured full Professor and I hold the Cockrell Family Regents Endowed Chair at the University of Texas at Austin. My appointments are in the Department of Electrical and Computer Engineering, the Department of Computer Sciences, and the Department of Biomedical Engineering. I am also the Director of the Laboratory for Image and Video Engineering (“LIVE”).

3. My research is in the general area of digital television, digital cameras, image and video processing, computational neuroscience, and modeling of biological visual perception. I have published over 800 technical articles in these areas and hold seven U.S. patents. I am also the author of *The Handbook of Image and Video Processing, Second Edition* (Elsevier Academic Press, 2005); *Modern Image Quality Assessment* (Morgan & Claypool, 2006); *The Essential Guide to Image Processing* (Elsevier Academic Press, 2009); and *The Essential Guide to Video Processing* (Elsevier Academic Press, 2009); and numerous other publications.

4. I received the 2017 Edwin H. Land Medal from the Optical Society of America in September 2017 with citation: For substantially shaping the direction and advancement of modern perceptual picture quality computation, and for energetically engaging industry to transform his ideas into global practice.

5. I received a Primetime Emmy Award for Outstanding Achievement in Engineering Development, for the Academy of Television Arts and Sciences, in October 2015, for the widespread use of my video quality prediction and monitoring models and algorithms that are widely used throughout the global broadcast, cable, satellite and internet Television industries.

6. Among other awards and honors, I have received the 2013 IEEE Signal Processing Society’s “Society Award,” which is the highest honor accorded by that technical

society (“for fundamental contributions to digital image processing theory, technology, leadership and education”). In 2005, I received the Technical Achievement Award of the IEEE Signal Processing Society, which is the highest technical honor given by the Society, for “broad and lasting contributions to the field of digital image processing”; and in 2008 I received the Education Award of the IEEE Signal Processing Society, which is the highest education honor given by the Society, for “broad and lasting contributions to image processing, including popular and important image processing books, innovative on-line courseware, and for the creation of the leading research and educational journal and conference in the image processing field.”

7. My technical articles have been widely recognized as well, including the 2009 IEEE Signal Processing Society Best Journal Paper Award for the paper “Image quality assessment: From error visibility to structural similarity,” published in *IEEE Transactions on Image Processing*, volume 13, number 4, April 2004; this same paper received the 2017 IEEE Signal Processing Society Sustained Impact Paper Award as the most impactful paper published over a period of at least ten years; the 2013 Best Magazine Paper Award for the paper “Mean squared error: Love it or leave it?? A new look at signal fidelity measures,” published in *IEEE Transactions on Image Processing*, volume 26, number 1, January 2009; the IEEE Circuits and Systems Society Best Journal Paper Prize for the paper “Video quality assessment by reduced reference spatio-temporal entropic differencing,” published in the *IEEE Transactions on Circuits and Systems for Video Technology*, vol. 23, no. 4, pp. 684-694, April 2013; and the 2017 IEEE Signal Processing Letters Best Paper Award for the paper A. Mittal, R. Soundararajan and A.C. Bovik, “Making a ‘completely blind’ image quality analyzer,” published in the *IEEE Signal Processing Letters*, vol. 21, no. 3, pp. 209-212, March 2013.

8. I received the Google Scholar Classic Paper citation twice in 2017, for the paper “Image information and visual quality,” published in the *IEEE Transactions on Image Processing*, vol. 15, no. 2, pp. 430-444, February 2006 (the main algorithm developed in the paper, called the Visual Information Fidelity (VIF) Index, is a core picture quality prediction engine used to quality-assess all encodes streamed globally by Netflix), and for “An evaluation of recent full reference image quality assessment algorithms,” published in the *IEEE Transactions on Image Processing*, vol. 15, no. 11, pp. 3440-3451, November 2006. (the picture quality database and human study described in the paper, the LIVE Image Quality Database, has been the standard development tool for picture quality research since its first introduction in 2003). Google Scholar Classic Papers are very highly-cited papers that have stood the test of time, and are among the ten most-cited articles in their area of research over the ten years since their publication.

9. I have also been honored by other technical organizations, including the Society for Photo-optical and Instrumentation Engineers (SPIE), from which I received the Technology Achievement Award (2013) “For Broad and Lasting Contributions to the Field of Perception-Based Image Processing,” and the Society for Imaging Science and Technology, which accorded me Honorary Membership, which is the highest recognition by that Society given to a single individual, “for his impact in shaping the direction and advancement of the field of perceptual image processing.” I was also elected as a Fellow of the Institute of Electrical and Electronics Engineers (IEEE) “for contributions to nonlinear image processing” in 1995, a Fellow of the Optical Society of America (OSA) for “fundamental research contributions to and technical leadership in digital image and video processing” in 2006, and as a Fellow of SPIE for

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