

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent of: Vidya Narayanan, et al.  
U.S. Patent No.: 8,768,865 Attorney Docket No.: 39521-0042IP2  
Issue Date: July 1, 2014  
Appl. Serial No.: 13/269,516  
Filing Date: October 7, 2011  
Title: LEARNING SITUATIONS VIA PATTERN MATCHING

**DECLARATION OF DR. JAMES F. ALLEN**

1. My name is Dr. James Allen. I am the John H. Dessauer Professor of Computer Science for the University of Rochester, a position I have held since 1992. I have been employed by the University of Rochester since 1978. I regularly teach undergraduate- and graduate-level courses in natural language understanding covering topics including English phrase structure, parsing, semantic analysis, speech acts, knowledge representation, and natural language system design. My curriculum vitae is provided (as Exhibit 1004).

2. I received Bachelor of Science, Master of Science, and Doctor of Philosophy Degrees in Computer Science from the University of Toronto.

3. I am an expert in the field of artificial intelligence. I served on the Editorial Board of *AI Magazine* for seven years and as Editor-in- Chief of the foremost journal in natural language processing, *Computational Linguistics*, for ten

years. I serve as Associate Director for the Florida Institute for Human and Machine Cognition, a position I have held since 2006. I also served on the Scientific Advisory Board for the Vulcan/Allen Institute for Artificial Intelligence, a position I held from 2012 until the Board's dissolution at the end of 2013.

4. In addition, I have supervised 30 PhD dissertations in Artificial Intelligence and many of my students are now faculty at distinguished universities and occupy key positions in tech companies such as Google and IBM.

5. Throughout my career I have received a variety of awards. I received one of the first Presidential Young Investigator Awards between 1984 and 1989. I am a Founding Fellow of the Association for the Advancement of Artificial Intelligence (AAAI) and delivered the keynote address at foremost conference on Artificial Intelligence in 1998. I also received the best paper award from the same conference in 2007. I was elected as a Fellow of the Cognitive Science Society in August 2014. I have received well over \$30 million in research funding from agencies such as the National Science Foundation, the Defense Advanced Research Projects Agency, and the Office of Naval Research.

6. My work is extensively cited in the field. Overall there are over 50,000 citations to my work in leading journals and conferences. My paper "Maintaining Knowledge About Temporal Intervals" (CACM, 1983) is regularly

included in lists of the most-cited papers in Computer Science, and has received over 10,000 citations.

7. I have made influential contributions in the field of Artificial Intelligence in a number of areas, including temporal reasoning, the representation of action and time, plan and intention recognition, and models of communication (e.g., plan-based models of conversation).

8. I have been retained on behalf of Apple Inc. to offer technical opinions relating to U.S. Patent No. 8,768,865 (the ‘865 Patent), and prior art references relating to its subject matter. I have reviewed the ‘865 Patent and relevant excerpts of the prosecution history of the ‘865 Patent. Additionally, I have reviewed the following:

- a. Wang et al, “*A Framework of Energy Efficient Mobile Sensing for Automatic User State Recognition*”, Proceedings of the 7th international conference on Mobile systems, applications, and services, pp. 179-192 , Kraków, Poland — June 22 - 25, 2009 (“Wang” or APPLE-1005);
- b. “Qualcomm Incorporated Compliant for Patent Infringement,” filed on November 29<sup>th</sup>, 2017, from Case No. 3:17-cv-02402-WQH-MDD filed in S.D. CA. (“Compliant” or APPLE-1006)

- c.** Exhibit 865 of “Qualcomm Inc.’s Patent Initial Infringement Contentions,” filed on March 2<sup>nd</sup>, 2018, from Case No. 3:17-cv-02402-WQH-MDD filed in S.D. CA. (“Infringement Contentions” or APPLE-1007)
- d.** U.S. Patent Application Publication No. 2010/0217533 to Nadkarni et al. (“Nadkarni” or APPLE-1008)
- e.** U.S. Patent Application Publication No. US 2008/0297513 to Greenhill et al. (“Greenhill” or APPLE-1009),
- f.** Webpage of “Nokia N95 8GB - Full phone specifications” (Archive.org version dated 05/26/2009, [http://web.archive.org/web/20090526054459/http://www.gsmarena.com:80/nokia\\_n95\\_8gb-2088.php](http://web.archive.org/web/20090526054459/http://www.gsmarena.com:80/nokia_n95_8gb-2088.php)) (“Nokia N95” or APPLE-1010)
- g.** U.S. Patent No. US 8,676,224 to Louch (“Louch” or APPLE-1011)
- h.** U.S. Patent Application Publication No. 2011/0066383 to Jangle et al. (“Jangle” or APPLE-1012)
- i.** U.S. Patent No. 9575776 to De Andrade Cahyba et al. (“De Andrade Cahyba” or APPLE-1013)
- j.** U.S. Patent Application Publication No. 2011/0081634 to Kurata (“Kurata” or APPLE-1014)

- k.** Declaration of Mr. Chris Butler for Nokia N95 (APPLE-1015)
  - l.** Declaration of Mr. Scott Delman for Wang (APPLE-1016)
  - m.** Cohn, D., Caruana, R., & McCallum, A. *Semi-supervised clustering with user feedback in Constrained Clustering: Advances in Algorithms, Theory, and Applications*, CRC Press, pp17-32, (2009)  
 (“Cohn” or APPLE-1017)
  - n.** Ruzzelli, A., Nicolas, C. Schoofs, A., O;”Hare, G. Real-time recognition and profiling of appliances through a single electricity sensor, *Proc. 7<sup>th</sup> Annual IEEE Conference on Sensor Mesh (SECON)*, Boston. MA 2010 (“Ruzzelli” or APPLE-1018)
  - o.** Cilla, R., Particio, M., Garcia, J., Berlanga, A., and Molina, J. Recognizing Human Activities from Sensors Using Hidden Markov Models Constructed by Feature Selection, *Algorithms 2009, 2: pp282-300* (“Cilla” or APPLE-1019)
  - p.** The seventh edition of the Authoritative Dictionary of IEEE Standards Terms (2000) (APPLE-1020)
9. Counsel has informed me that I should consider these materials through the lens of a person having ordinary skill in the art related to the ‘865 Patent at the time of the earliest purported priority date of the ‘865 Patent, and I

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