

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

UNIFIED PATENTS INC.
Petitioner

v.

GUADA TECHNOLOGIES LLC
Patent Owner

IPR2017-01039
Patent 7,231,379

DECLARATION OF PADHRAIC SMYTH, PH.D.

I, Padhraic Smyth, hereby declare the following:

I. BACKGROUND AND QUALIFICATIONS

1. My name is Padhraic Smyth and I am over 21 years of age and otherwise competent to make this Declaration. I make this Declaration based on facts and matters within my own knowledge and on information provided to me by others, and, if called as a witness, I could and would competently testify to the matters set forth herein.

2. I am a Professor in the Department of Computer Science at the University of California, Irvine and Director of the UCI Data Science Initiative. I have been retained as a technical expert witness in this matter by Counsel for Petitioner Unified Patents, Inc. to provide my independent opinions on certain issues requested by Counsel for Petitioner relating to the accompanying petition for *Inter Partes* Review of U.S. Patent No. 7,231,379 (“the ’379 Patent”). My compensation in this matter is not based on the substance of my opinions or the outcome of this matter. I have no financial interest in Petitioner. I have been informed that Guada Technologies LLC (“Guada”) is the purported owner of the ’379 Patent, and I note that I have no financial interest in Guada.

3. I have summarized in this section my educational background, career history, and other qualifications relevant to this matter. I have also included a current version of my curriculum vitae as **Appendix A (Ex. 1009)**.

4. I received a bachelor's degree in electronic engineering (B.E., first class honors) from the National University of Ireland, Galway, in 1984. I received a master's degree (M.S.E.E.) and a Ph.D. in electrical engineering from the California Institute of Technology, Pasadena, CA, in 1985 and 1988, respectively. My Ph.D. thesis was focused on the use of hierarchical tree structures and rule-based methods for automated and efficient classification of objects into categories.

5. From 1988 to 1996, I was a technical staff member and technical group leader (from 1992 onwards) at the Jet Propulsion Laboratory (JPL) in Pasadena, CA. My role at JPL consisted of research and development in the areas of pattern recognition, machine learning, data mining, and expert systems, as well as leading projects involved in the application of these techniques to problems of interest to JPL and NASA.

6. As part of my work, I published and presented papers during the period 1988-1996 at multiple different conferences in the areas of pattern recognition, machine learning, and artificial intelligence. One example of my research work was my involvement in the emerging research area of "knowledge discovery in databases" (KDD). This began as a small research workshop in 1989 and quickly evolved into a large annual international conference (with the first conference in 2004 and continuing annually since then). The research area was somewhat unique in that it involved an interdisciplinary set of researchers working at the intersection

of databases, statistics, and machine learning algorithms. I was involved with the KDD research field both as a researcher (writing and presenting papers), in the organization of the conference, and in co-editing the first text on knowledge discovery from databases (published by MIT Press in 1996, see discussion of publications below).

7. In 1996, I moved from JPL to the University of California, Irvine, to take a position as an assistant professor in the Department of Computer Science. In 1998, I was promoted to associate professor with tenure, and in 2003 I was promoted to the position of full professor. I also have a joint faculty appointment in the Department of Statistics at UC Irvine. As a professor at UC Irvine since 1996, I have conducted research in the areas of pattern recognition, machine learning, and artificial intelligence, with an emphasis on developing new theories and algorithms for automatically extracting useful information from very large volumes of data across a wide variety of applications.

8. In 2007, I was also appointed as the founding director for the Center for Machine Learning and Intelligent Systems at UC Irvine. This Center has over 30 affiliated faculty members at UC Irvine whom are all involved in research in areas such as machine learning, database research, and artificial intelligence. In 2014, I was appointed as founding Director of the UC Irvine Data Science Initiative, a cross-campus research initiative involving computer scientists,

statisticians, engineers, scientists, medical researchers, and more across the campus.

9. My teaching duties have consisted of teaching both undergraduate and graduate courses in the Computer Science department, with a focus on courses in the areas of data mining and machine learning – titles of courses I have taught in the past few years include Data Mining, Introduction to Artificial Intelligence, Project in Artificial Intelligence, Applications of Probability for Computer Scientists, and Probabilistic Learning. These courses include material related to data structures such as hierarchical trees for automated decision-making and user navigation, design and evaluation of systems for information retrieval, and machine learning algorithms that can adapt and learn from data provided via user input.

10. In addition to my duties at UC Irvine, I also consult with private industry in the areas of machine learning and pattern recognition. My consulting work often involves the development of mathematical models, algorithms, and software for companies who wish to develop and deploy operational systems that can autonomously interact with a user, such as recommending (on a Web site) the next item to a user from a large catalog of potential items they may wish to consider. These systems are typically constructed from large historical databases, consisting of text data, customer transactions, etc. Over the past 18 years I have

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