

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE PATENT TRIAL AND APPEAL BOARD

---

ELASTIC N.V.,  
Petitioner,

v.

GUADA TECHNOLOGIES LLC,  
Patent Owner.

---

Patent No. 7,231,379

---

**DECLARATION OF PADHRAIC SMYTH, PH.D.**

## TABLE OF CONTENTS

I.	BACKGROUND AND QUALIFICATIONS .....	1
II.	LEGAL FRAMEWORK .....	11
	A. Obviousness.....	11
III.	OPINION .....	18
	A. Level of Skill of a Person Having Ordinary Skill in the Art .....	18
	B. Background of the Technology .....	19
	C. Obvious to Apply Wesemann to the Claims of the '379 Patent .....	30
	D. Obvious to Combine Wesemann and Rajaraman .....	50
	E. Obvious to Apply Fratkina to the Claims of the '379 Patent.....	59
	F. Obvious to Combine Fratkina and Rajaraman .....	68
IV.	CONCLUSION.....	70

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. I have been retained as a technical expert witness in this matter by Counsel for Petitioner 7, 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 EX1009.

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 appointments in the Department of Statistics and in the Department of Education 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.

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.

# 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.