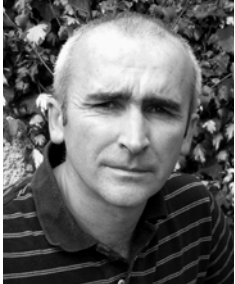


Interview with Pádraig Cunningham and Barry Smyth



Pádraig Cunningham is Professor of Knowledge and Data Engineering in the School of Computer Science and Informatics at University College Dublin. He has a B.E. and M.Eng.Sci. from NUI Galway and a Ph.D. from Dublin University which he received in 1989. He became a Fellow of ECCAI (European Coordinating Committee on Artificial Intelligence) in 2004. After completing his PhD he worked with Digital Equipment Corporation as a Software Engineer and with Hitachi Europe Ltd. as a Research Scientist. He joined Trinity College Dublin as a lecturer in 1992 and moved to the School of Computer Science and Informatics in University College Dublin in 2006. He is a former director of start-up companies New World Commerce and Prediction Dynamics. Dr. Cunningham has published over 140 peer-reviewed papers in the general area of applied AI, focusing on machine learning and case-based reasoning systems for decision support in engineering, e-commerce, finance and medicine.



Barry Smyth holds the Digital Chair of Computer Science in the School of Computer Science and Informatics. Barry's research interests cover many aspects of artificial intelligence and information retrieval, including case-based reasoning, recommender systems, user modelling, and personalized user interfaces. He has published more than 300 peer-reviewed articles and has received a number of awards for his research. In 1999 Barry co-founded ChangingWorlds Ltd. to bring personalization technologies to mobile operators. He continues to serve as the company's Chief Scientist. ChangingWorlds has recently been acquired by Amdocs. Barry has recently helped to secure in excess of €16m in funding for CLARITY, the Centre for Sensor Web Technologies, where he will serve as Director. CLARITY will explore the combination of next-generation adaptive sensing and information discovery technologies in a range of application areas, including environmental monitoring, personalized healthcare, and social media.

KI: How did you get the idea of carrying out an analysis of research themes for CBR conference literature?

PC: We are aware that other research communities have done this kind of thing. Particularly in the information retrieval community and in the database community they have done this kind of study and we are also aware of citation type analysis, for instance, in genomics there is some famous citation analysis that has been done there. But we thought, because we belong to this small community that has several sub-themes within it, and we have come to this fifteen-year milestone, it would be useful to do a systematic analysis of our community in those terms. There are some aspects of the community that we believe are unusual, particularly that some research is overlapping and that a contribution can belong to more than one theme. So that was interesting to see if we could uncover that with the type of analysis that we did.

Some aspects of the CBR community are unusual

BS: Yes. The analysis is part of a larger piece of work that we are doing on citation analysis in general. It is informed by the fact that in our university, and I am sure in your own, citations are becoming more and more important, as a way to evaluate research performance. In computer science research conferences are critically important but the common sources of citation information are not a good fit for conference publications as they focus more on journal output. Hence the need for a focused analysis of the citation impact of leading conferences.

KI: What do you feel was important in the development of the CBR community and CBR research and how does it relate to your analysis?

BS: I suppose there are a few things that come to my mind. First of all I think that there is a very strong sense of community within CBR in particular and many of us have grown up together as researchers from 1993 to present age through the two conference series [KI: ECCBR and ICCBR conferences series]. And I think it does provide a reason-

ably closed-world in which to perform a bounded study like this. Our intuition was that as the community and our research has been evolving as it has matured. If you looked back before 1993, any description of CBR would fall back on cases, representation, retrieval, similarity, and adaptation. Our intuition was that this must have changed in the intervening time. It wasn't quite obvious how it would have changed, however, and the analysis allowed us to pick out certain themes from contemporary CBR research, themes like case-based maintenance, conversational case-based reasoning, recommender systems etc.

The CBR research area is open ended and that is one of its main challenges

KI: What do you think are the characteristics of how healthy a research community is structured and how healthy do you consider the CBR community?

PC: One of the challenges that CBR as a community faces is that the research area is open ended. It is a set of tech-