

Editorial

Special Issue on Case-Based Reasoning

This special issue collects together papers that were presented at the 4th United Kingdom Case-Based Reasoning workshop (UKCBR4) held at the University of Salford on the 15th. September 1999 and organised by AI-CBR. At the 1st UK CBR workshop in 1995 I quoted Ian Graham, chair of the Expert Systems 91 conference, as saying “*CBR promises to become one of the major new methods for developing expert systems*”. Well, nine years on we can now see how insightful his observation was. CBR has gone from strength to strength since those early years.

At the 1st UK CBR Workshop in 1995 many of us met *f2f* (face to face) for the very first time. Then it was somewhat of a wish fulfilment to talk of the “UK CBR community”. Moreover, at that time the fifteen or so papers published in the workshop proceedings represented almost the totality of UK CBR research. This year twenty five papers were submitted to the workshop, several from beyond the UK. Papers were selected for presentation at the workshop, based on quality and representative of the diversity of research in CBR.

Of those papers presented the following were also presented at and are published in the proceedings of Expert Systems 99:

- Applying Case-Based Reasoning to Code Understanding and Generation - Andrew Broad and Nick Filer (University of Manchester)
- Multiple Algorithms for Fraud Detection - Richard Wheeler and Stuart Aitken (University of Edinburgh)
- *A Constructive-CBR Approach to Configuration Design* - S. Potter, M.J. Darlington, S.J. Culley and P.K. Chawdhry (University of Bath)

The remaining papers presented at UKCBR4 are published here for the first time.

At the first international CBR conference (also in 1995) those of us who gathered in Portugal were not sure if there would be a need for a 2nd CBR conference. Case retrieval seemed largely solved by the k-nearest neighbour technique, adaptation was either soluble, insoluble or unimportant depending on your viewpoint and there were already several commercial CBR tools around. Moreover, the parents of CBR (Roger Schank and Janet Kolodner) seemed to be leaving the subject as it moved away from its cognitive science roots.

However, at the start of the 21st Century CBR has lots to offer researchers. Retrieval from large case-bases is not as simple as we first thought, adaptation is not

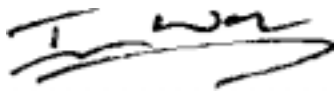
unimportant and it is, like so many interesting problems, usually some where between soluble and insoluble. Moreover, we've recently discovered that case-bases need maintenance – perhaps they need to *remember to forget* cases. And then finally, there's the software issue. Cognitive Systems went bust, KATE went from strength to strength, Inference grew into a global e-commerce company and although it still does CBR you'll not find many references to CBR in their promotional material, and the European Union spent millions helping the Germans produced an excellent tool called CBR-Works which is now powering e-commerce web sites around the world. CBR has been applied successfully (and that means commercially) in hundreds of application world-wide from medicine to finance and engineering to agriculture proving Ian Graham's prediction correct.

If you are interested in learning more about CBR there is no better place than AI-CBR an on-line resource for CBR researchers and developers: www.ai-cbr.org

If you want to attend a CBR meeting the next events are:

- The 5th European Workshop on Case-Based Reasoning (EWCBR2K), to be held in Trento Italy Sept. 6-9, 2000 (<http://ewcbr2k.al.unipmn.it/>)
- 4th. International Conference on Case-Based Reasoning (ICCBR'01), to be held at Simon Fraser University, Vancouver, Canada, July 30 – Aug 2, 2001 (www.iccbr.org/iccbr01/)

Finally, I'd like to thank the people at ai-cbr (www.ai-cbr.org) who helped organise the workshop, the Programme Committee members, Michelle Wallwork for handling reprographics, catering and registrations, our sponsors Tecinno (www.tecinno.com) and The Haley Enterprise (www.haley.com) and Frans Coenen the Editor of Expert Update.



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Guest Editor Expert Update Vol. 3. No. 1

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UKCBR4 web site

www.ai-cbr.org/ukcbr4/