

<b>Higher Education Institute :</b>		University of York					
<b>Faculty/School/Group :</b>		Department of Computer Science, Advanced Computer Architectures Group					
<b>Address:</b> Heslington, York YO10 5DD							
<b>Contact:</b> Professor Jim Austin				<b>Tel:</b> 01904 432734			
<b>Email:</b> austin@cs.york.ac.uk							
<b>Keywords</b> <i>select as appropriate</i>	<b>Security</b>	<input type="radio"/>	<b>Fraud Control</b>	<input checked="" type="checkbox"/>	<b>Privacy</b>	<input type="radio"/>	
<i>(Add keywords from list)</i>	neural networks			fuzzy pattern-matching			
fuzzy text matching in real-time	high-performance pattern matching system			novel pattern matching hardware development			
image analysis	associative memory			time-series analysis			
<b>Research Overview:</b>							
<p>The group, lead by Prof. Jim Austin, has maintained a thriving research programme in neural networks for over 14 years. Research is focused on theory and application of neural networks in data search, computer vision, and knowledge manipulation. The group is especially noted for its work on binary neural networks (e.g. the ADAM and AURA projects).</p>							
<b>Contact:</b> Prof. Jim Austin				<b>Tel:</b> 01904 432734			
<b>Email:</b> austin@cs.york.ac.uk							
<b>Research Project overviews:</b>							
<p><b>Researcher(s):</b> Jim Austin, Ken Lees, Julian Young  <b>email:</b> austin@cs.york.ac.uk  <b>details:</b> AURA (Advanced Uncertain Reasoning Architecture) project: research into high-performance pattern matching systems based on Correlation Matrix Memory binary neural networks. AURA provides generic techniques for high-speed approximate search operations on large unstructured datasets. AURA search technology is fast on conventional workstations, and accelerator hardware is available for more demanding applications.</p>							
<p><b>Researcher(s):</b> Jim Austin, Victoria Hodge  <b>email:</b> austin@cs.york.ac.uk  <b>details:</b> Integration of case-based reasoning and neural networks. Provides a framework for learning hierarchical concept structures which can be used to improve discrimination of searches by use of semantic information.</p>							
<p><b>Researcher(s):</b> Jim Austin, Julian Young, Ken Lees  <b>email:</b> austin@cs.york.ac.uk austin@cs.york.ac.uk  <b>details:</b> Address Matcher: a specific project to develop AURA technology for a real application. The result is a sophisticated demonstrator capable of finding (within a second or two) the correct postal address when presented with a mis-spelled,</p>							

misordered and truncated query.

**Researcher(s):** Jim Austin, Sujeewa Alwiss

**email:** austin@cs.york.ac.uk

**details:** A binary neural network architecture for trademark image retrieval: a project which has augmented the techniques developed in the AURA project to develop a powerful matching system for identifying similarities in trademarks with potential applications in supporting the work of Patent offices.

**Source HEI**

**Mr John Clark**

**University of York**

<b>Higher Education Institute :</b>	University of York		
<b>Faculty/School/Group :</b>	Computer Science		
<b>Address:</b> York Y01 5DD			
<b>Contact:</b> Mr John Clark		<b>Tel:</b> 01904 432722	
<b>Email:</b> jac@cs.york.ac.uk			
<b>Keywords</b> <i>select as appropriate</i>	<b>Security</b>	<b>Fraud Control</b>	<b>Privacy</b>
<i>(Add keywords from list)</i>			
<b>Research Overview:</b>			
Current research interest is the application of formal techniques to the specification and analysis of authentication protocols.			
<b>Contact:</b> Research and Industry Officer		<b>Tel:</b> 01904 435102	
<b>Email:</b> smf3@york.ac.uk			
<b>Research Project overviews:</b>			
<b>Researcher(s):</b> <b>email:</b> <b>details:</b>			
<b>Source BEST 1998</b>			