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techsearch

Enhancing system design for engineers



Director of the Knowledge-based Engineering Systems group, Dr Lakhmi Jain (standing), senior DSTO research scientist Dr Alan Bolton and PhD student Neil Martin examine a new technique for enhancing electronic system design.

Although only two years old, the University of South Australia's Knowledge-based Engineering Systems (KES) group is making significant strides into the field of system design. Forming part of the School of Electronic Engineering, the group's main objective is to enhance electronic system design and diagnostic techniques for the benefit of industries and researchers in all disciplines of engineering. To achieve this, the KES group:

- develops conventional and knowledge-based cost-effective electronic system design and diagnostic techniques for industry;
- develops excellence in teaching, attracts postgraduate students and high quality researchers in the area of knowledge-based engineering; and
- enhances electronic system design methodology by applying novel techniques in artificial intelligence environments.

The group has established many valuable links with national and international industries and universities. Led by Dr Lakhmi Jain, the team of researchers includes staff from the University of South Australia, Adelaide University and Flinders University as well as engineering experts from the Microwave Radar division of the DSTO and a number of students who are undertaking their Master of Engineering/Doctorate.The group also works closely with Mr B. Bowden, an artificial intelligence expert with the School of Computer and Information Science.

The KES group is currently undertaking a range of research projects concerning the application of knowledge-based engineering to areas such as electronic system design and interpretation of microwave radar images.

The benefits to be gained from knowledge-based engineering include improved electronic system design, on-board fault diagnosis and improved performance in on-line medically related applications.

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