



Jimmy Huang

## DEVELOPING TOOLS TO IMPROVE HEALTH CARE

**Information Technology is playing an increased and vital role in the way health care is delivered in Canada. As more and more medical data—such as patient records—becomes available online the need for an advanced information retrieval system grows. Professor Jimmy Huang recently received the Early Researcher Award from the Ontario Ministry of Research and Innovation to develop a set of tools aimed at improving the cost and effectiveness of health care.**

Worth \$150,000, the highly competitive award is presented to promising, recently-appointed Ontario researchers who are expected to make a valuable impact on high-priority economic areas.

Huang's project, titled *"Analyzing and Searching Medical Data for Cost Effective Health Care"*, will apply advanced information technology techniques to challenges in the biomedical and medical fields. The goal is to provide cost-effective decision making support for doctors and patients by analyzing and finding information and patterns which would be otherwise hidden in medical data. In particular, Huang is investigating how to build customized search engines that will filter out unneeded information, automatically extract relevant elements from medical databases and reveal significant patterns in that data to identify affordable treatment and care.

*"This project is expected to greatly improve the quality of life and care for Canadians,"* said Huang. *"It will encourage patients to engage more actively in the management of their health and assist physicians in making the best decisions possible about how to treat their patients. Significantly, it will also individualize care—considering*

*factors such as affordability and patient history as well as offering up a number of unique treatment options to suit a patient's needs and preferences."*

Implications for Huang's project extend beyond the health care field. The project developments will support applications in a number of other disciplines, including business, computer science and law. For instance, the tools Huang develops may allow law firms to quickly retrieve information pertinent to current cases they are working on rather than doing time consuming manual detective work. Or, they may provide businesses with an easy-to-manage system containing information on their imports and exports.

*"Organizations are frequently overwhelmed with the amount of data they have,"* said Huang. *"Sorting through it, trying to make connections and make sense of those connections can be next to impossible. User-friendly and secure information retrieval tools and techniques will enable them to access information and to solve challenges in a convenient and efficient manner."*

For more information on the project, watch a video at [www.atkinson.yorku.ca/video/jh/](http://www.atkinson.yorku.ca/video/jh/) or e-mail [jhuang@yorku.ca](mailto:jhuang@yorku.ca)

