Improving web search

January 16 2012

Research from Victoria University could help search engines understand people's queries much better.

Although 80 percent of searches immediately find what people are looking for, sometimes it takes hours to find the right page, says Dr Daniel Crabtree, who graduated with a PhD in Computer Science at Victoria's December Graduation.

He designed new algorithms that give search engines a better understanding of the meaning behind a user's queries.

"Search engines still throw up mixed results with ambiguous search terms. If you searched for 'jaguar' for instance, it could refer to the animal, the car, even an Apple operating system or '80s video game console.

"Search engines currently don't deal with that ambiguity because they simply search for web pages that contain the words you've entered."

He says the algorithms he has developed group pages together—which is called clustering—to separate different interpretations.

The algorithms use statistical language models to 'see through' the search terms and capture the intended meaning of a query.

"One aspect of the model for instance is that it recognises word order. If you typed in 'New Zealand air', for example, it would cluster results

around air quality rather than Air New Zealand which is the search result you get from Google."

Dr Crabtree says his model aims to help search engines understand queries and group related words together to deliver what someone is "really searching for".

"Search engines don't appear to have improved that much in recent years. That's partly because they've been focused on other issues, such as revising their search algorithms to stop spam or companies 'gaming' the search results," he says.

Although his model has been tested on a small scale and he has spoken to major search engines about his research, none of them appear to be using it yet.

"The major search engines seemed interested in hiring me a few years ago, but I'm keen to continue working on some of my other projects," says Dr Crabtree who started his first web business when he was 13 and attended Stanford Business School in 2008.

Although it has changed over the years, his original business continues as Big Fun Town— bigfuntown.com — a website featuring free browser-based games.

Since doing his PhD, he has been working on a new web concept—"focused on finding and sharing information on the internet"—codenamed Project Mandelbrot.

Provided by Victoria University