MADALGO
CENTER FOR MASSIVE DATA ALGORITHMICS

Aarhus University
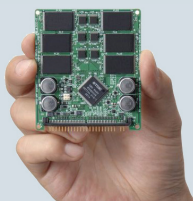
2008 Highlights

Research team

Center for Massive Data Algorithmics (MADALGO – see www.madalgo.au.dk) was established in 2007. At the end of 2008 the center research team consisted of six senior researchers (2 at AU), five Post Docs (4 at AU) and fifteen PhD students (11 at AU). Additionally, two further Post Docs and 4 PhD students (who obtained degrees during the year) were part of the center in 2008. All center Post Docs are internationals and so is a good deal of the PhD students.

Research collaboration and results

In 2008 MADALGO researchers published 35 peer reviewed research paper within the center research areas. Several of these papers have appeared in highly ranked journals and conference proceedings. Some of the results in the papers have been obtained with the many international researchers that have visited MADALGO in 2008. The center also has extensive multidisciplinary and industry collaboration, e.g. on issues in connection with massive terrain data.

Flash memory devices are quickly becoming popular, e.g. as replacements for hard-disks in laptop computers. These devices have very different access characteristic than disks (and other kinds of memory).

In 2008 center researchers – including MPI PhD student and subsequently AU Post Doc Deepak Ajwani – have performed an extensive experimental characterization of flash devices, and proposed several new theoretical models of them. The goal is to develop algorithms that are particular efficient on flash memory devices.

Center events

Apart from a large number of smaller research seminars and workshops, as well as a retreat for center employees, MADALGO also arranged a four day international summer school on "Cache-Oblivious Algorithms" in 2008, where four international experts lectured for around 60 participants (mostly PhD students).

In 2008 center researchers also gave more than 25 presentations at international research conferences, participated in more than 15 invitation only international research workshops, and gave more than 10 invited presentations at University seminars.

Awards and acknowledgments

The senior center researchers received a number of awards and acknowledgments in 2008. Mehlhorn received an honorary doctor degree from University of Aarhus, and Arge was elected member of the Royal Danish Academy of Sciences and Letters. Demaine received a number of awards, such as Universite Libre de Bruxelles gold medal and the Katayanagi emerging leadership price, and Indyk was invited to contribute a research highlight to Communication of the ACM.

Also the junior researchers received awards and acknowledgments. Center MIT PhD student Patrascu won the best student paper award at the top conference FOCS, and the two teams with center PhD student participation finished in fourth and fifth place (out of 47) in the northwestern Europe programming contest (NWERC).