

Invited Talk

Changing the Image of Computer Science A North American Perspective in Conversation with Europe

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In North America the public image of computing careers and computing professionals discourages many talented young people, especially women and minorities, from choosing to study computer science. For at least the last decade the computing profession has been widely viewed by high school students, parents, teachers, and counselors as being for individuals who have been obsessed with computers since puberty and want to program sixteen hours a day. Moreover those who choose to study computer science are often stereotyped as lacking social skills and other interests, and as individuals who work and study in an isolated environment.

During the dot.com boom of the late nineties the impact of this negative image was somewhat mitigated by the high salaries and possibilities of gaining extreme wealth through working for start-up companies. In the years since the dot.com crash the negative impact has been exacerbated through media stories on the “end of IT” and the off-shoring of software development jobs. During the past three years the enrolment in computer science undergraduate programs has steadily declined, especially in the top ranked Ph.D. granted departments.

The significant decline in enrolment in computer science undergraduate programs has raised great concern not only in academia, but in the ICT industry and in government.

Labor projections in the United States continue to show ICT as the area among science and engineering with by far the largest demand over the next ten years. Thus addressing the negative image of the computing profession has become a high priority. Over the past year, representatives from several ICT companies (Microsoft, Intel, HP, Sun, Google) and ICT organizations (ACM, Anita Borg Institute, the National Center for Women and Information Technology) have met regularly to explore various possible approaches to addressing this problem.

One idea is to encourage ICT companies to launch a media campaign to change the image of the computing profession. The goal would be to have teens, parents, teachers and counselors see computing careers as exceptional opportunities for the best and the brightest; as careers that let individuals combine talent and interest in many different areas and create technical solutions that address the most important problems in society; and as careers in which all academically able and creative individuals can flourish independent of gender, race, or social inclinations. Another idea is to have a popular talk show host, e.g. Oprah, dedicate one or more shows to women in computer science. The goal would be to showcase women who have used a computing education to build a successful career despite challenging childhood circumstances.

Although Europe would appear to present a variety of cultural contexts concerning careers in the computing professions, women seem to be similarly under-represented in ICT education and careers in most European countries (see for example <http://www.rcss.ed.ac.uk/sigis/public/deliverables/D02/1>). I would like to encourage a trans-Atlantic dialogue in which, looking beneath the surface, we can identify real cultural and social determinants of perceptions that either encourage or discourage young people and their parents from thinking about careers in computing.