

PRESS RELEASE

Training a New Breed of Computer Scientists for Society and Business

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Pittsburgh, PA – Carnegie Mellon University’s School of Computer Science has become the first in the country to offer a Ph.D. program that prepares students to construct technology that is particularly responsible to societal, business, policy and regulatory settings. The goal is to provide students with in-depth training not just in computation but also in fundamental approaches and techniques for including networks of people, and organizational and policy constraints. Students will engage in research aimed at developing emerging technologies with provable guarantees of the technology’s appropriateness for specific social, organizational, and/or legal settings. “The goal is to construct tomorrow’s technology in such a way that it avoids clashes with people and organizations,” said Latanya Sweeney, a faculty member actively involved in the new program.

The Ph.D. program in Computation, Organizations and Society (COS), builds on a multi-disciplinary team of Carnegie Mellon faculty. “The goal is to expose students to traditional tenets of computer and social science weaved with interdisciplinary coursework, hand-on applications and cutting-edge research,” said James Morris, Dean of the School of Computer Science. “Interdisciplinary research and computer science are tremendous strengths of Carnegie Mellon, so it is natural that these should be combined into a program like COS.”

Citing recent clashes with privacy, Latanya Sweeney, who is also Director of the Data Privacy Lab at Carnegie Mellon, highlighted the importance of constructing surveillance systems for national security that are compatible with the American public’s expectation of privacy. “The American public is not served by constructing surveillance systems in isolation and with disregard to privacy concerns. Instead, we can build surveillance systems that are effective at providing safety while also providing provable privacy protections. To accomplish this kind of integration requires a focused interdisciplinary pursuit.”

According to COS faculty member Kathleen Carley “the combination of computational techniques, such as multi-agent simulation, and social networks is revolutionizing the way we think about and manage groups and organizations. Scalable simulation systems are used to pre-evaluate policies, design teams on the fly, examine the potential spread of infectious diseases, evaluate possible strategies for making groups more or less adaptive,

and so on.“ Students in this program will have the opportunity to work on complex system models attached to real data that will be used in real organizations, not just on toy models.

“This program is about breaking the status quo, where technologies are viewed as constraints that have to be accommodated through changes in business models, organizational processes or policies. It is about recognizing that technology itself can be used to change the landscape and offer novel solutions to complex business or societal challenges.” said Norman Sadeh, Director of Carnegie Mellon’s e-Supply Chain Management Lab. and Mobile Commerce Lab, and another COS faculty member.

Students in the new Ph.D. program are expected to come from industry, government, or directly from undergraduate programs with a solid exposure to computation and math/science. “We expect our students to desire to do research at the confluence of computer science, management, social science, law, and/or policy,” said Professor Carley. “Students in the new program are expected to generally be pioneers who have a strong interest in constructing interdisciplinary computational solutions.”

More information on the new program is available at cos.cs.cmu.edu.