2009 ITI Undergraduate Summer Intern Program Underway

Twenty-one undergraduate students from around the world were selected to receive 2009 summer internships from the Information Trust Institute (ITI) at the University of Illinois, and the program is now underway.

This year marks the third offering of the annual undergraduate research program, which has attracted dramatically increasing interest with each year of the program. This year’s interns were selected from 351 applicants; the program received 94 applications in 2008 and 40 in 2007, its inaugural year.

The winning students are participating in 8- to 10-week research projects at the University of Illinois at Urbana-Champaign, supervised by ITI researchers in a number of information trust research areas. The awards, which are supported by state and federal funds, include intern stipends and, in some cases, an allocation for travel expenses. This year, faculty mentors participating in the program are from the Illinois departments of Computer Science, Electrical & Computer Engineering, Aerospace Engineering, and Mechanical Science & Engineering, as well as the Information Trust Institute and the Coordinated Science Laboratory.

In addition to working individually with faculty on real-world research projects, interns will attend weekly seminars at which professors present talks on research work ongoing at Illinois and weekly talks on ethics and professionalism in engineering careers. The summer program, which is led by ITI’s Assistant Director for Social Trust Initiatives, Dr. Masooda Bashir, will culminate in a poster session at which all of the interns will present the results of their work.
Below is a list of the successful applicants and their faculty mentors.

- David M. Austin of the University of Illinois at Urbana-Champaign will work with Prof. Elizabeth T. Hsiao-Wecksler on the development of new computational tools for quantifying the complex dynamics of human movement, specifically locomotion.
- Abner Ayala of the University of Puerto Rico, Mayagüez, will work with Prof. William H. Sanders on security, reliability, and availability metrics and modeling tools.
- Jashua Gupta of the University of Illinois at Urbana-Champaign will work with Prof. George Gross on research related to electricity markets.
- Parth Gupta of the Indian Institute of Technology, New Delhi, will work with Dr. Himanshu Khurana on distributed systems, security, access control, critical infrastructure protection, and key management.
- Shashank Gupta of the Indian Institute of Technology, Kharagpur, will work with Prof. Sayan Mitra on statistical model checking of distributed and real-time systems and the reliable implementation of embedded systems.
- Bobak Hadidi of the University of Illinois at Urbana-Champaign will work with Prof. Darko Marinov on topics in software testing, software reliability, and software engineering.
- Christopher Li of the University of Illinois at Urbana-Champaign will work with Prof. Todd Coleman on message-passing algorithms, wireless communications, statistical data analysis for security, and digital rights management applications.
- Akihiro Maeda of Amherst College will work with Prof. Tim Bretl on trustworthy human operation of semi-autonomous robotic vehicles.
- Rayman Preet Singh Matharu of the Indian Institute of Technology, Kharagpur, will work with Prof. Yih-Chun Hu on topics in network security and wireless security.
- Charlie Meyer of the University of Illinois at Urbana-Champaign will work with Prof. Ralph Johnson to develop automated refactoring tools that enable programmers to refactor sequential code into parallel code that uses parallel libraries, such that the refactored code is thread-safe and scalable.
- Richard Otap of the University of Illinois at Urbana-Champaign will work with Prof. Geir Dullerud on topics involving distributed robotics, hardware, and software.
- Pichayoot Ouppaphan of the University of Illinois at Urbana-Champaign will work with Prof. Manoj Prabhakaran on theoretical cryptography and provable security, including secure multiparty computation, encryption schemes, signature schemes, security definitions, and secure composition of protocols.
- Cosmin-Aurel M. Rădoi of the “Politehnica” University of Timișoara will work with Prof. Ralph Johnson and Danny Dig to develop automated refactoring tools that enable programmers to refactor sequential code into parallel code that uses parallel libraries, such that the refactored code is thread-safe and scalable.
- Praveen R. Rokkam of the Indian Institute of Technology, Kharagpur, will work with Dr. Zbigniew Kalbarczyk on the design and evaluation of reliable computing systems and applications.
- Yenugula Sandeep of the Indian Institute of Technology, Kharagpur, will work with Dr. Zbigniew Kalbarczyk on the design and evaluation of reliable computing systems and applications.
- Federico Scholcoff of the University of Illinois at Urbana-Champaign will work with Prof. Elizabeth T. Hsiao-Wecksler on the development of new computational tools for quantifying the complex dynamics of human movement, specifically locomotion.
- Jonathan Schrock of Taylor University will work with Prof. David Nicol on topics in cyber-security technology and policy, high-performance computing, and modeling and simulation of large-scale systems and networks.
- Aleksandr Shulman of the University of Illinois at Urbana-Champaign will work with Dr.
Himanshu Khurana on distributed systems, security, access control, critical infrastructure protection, and key management.

- Mihai-Adrian Tarce of the “Politehnica” University of Timișoara will work with Prof. Ralph Johnson and Danny Dig to develop automated refactoring tools that enable programmers to refactor sequential code into parallel code that uses parallel libraries, such that the refactored code is thread-safe and scalable.
- Jane Tu of the University of Illinois at Urbana-Champaign will work with Prof. Narendra Ahuja on visual inspection of railcars, 3D mapping of buildings, and object recognition.
- Winston Wan of Carnegie Mellon University will work with Prof. Roy Campbell on topics related to operating systems, distributed systems, mapping/reduction, location awareness, and mobiles.

About the Information Trust Institute (ITI)
The Information Trust Institute is a multidisciplinary cross-campus research unit housed in the College of Engineering at the University of Illinois at Urbana-Champaign. It is an international leader combining research and education with industrial outreach in trustworthy and secure information systems. ITI brings together over 90 faculty, many senior and graduate student researchers, and industry partners to conduct foundational and applied research to enable the creation of critical applications and cyber infrastructures. In doing so, ITI is creating computer systems, software, and networks that society can depend on to be trustworthy, that is, secure, dependable (reliable and available), correct, safe, private, and survivable. Instead of concentrating on narrow and focused technical solutions, ITI aims to create a new paradigm for designing trustworthy systems from the ground up and validating systems that are intended to be trustworthy. www.iti.uiuc.edu

Writer: Jenny Applequist, Information Trust Institute, 217/244-8920, applequi@iti.uiuc.edu.

Released June 22, 2009