

HOW DOES SOCIAL MEDIA INSPIRE SOCIAL ACTION?
WHAT MAKES SOMETHING GO VIRAL?
HOW IS ONLINE LEARNING TRANSFORMING THE EDUCATIONAL LANDSCAPE?
HOW DOES CONSTANT CONNECTIVITY AFFECT FAMILY LIFE?
WHERE DOES OUR PERSONAL DATA GO ONCE IT GETS COLLECTED BY INFORMATION TECHNOLOGY?
HOW DO WE
HOW CAN WE USE
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EXPOS
HOW CAN TECH
WHY ARE COMPUTER GAMES REVOLUTIONIZING THE MEDICAL INDUSTRY?
WHAT DOES BIG DATA MEAN FOR SCIENCE?
HOW CAN CROWDSOURCING LEAD TO BETTER SOFTWARE?
HOW DO WE CONTROL OUR REPUTATIONS ONLINE?
HOW DO APPS ENHANCE OR RESTRICT
CREATIVITY AND SPONTANEITY?
WHAT WILL THE NEXT INTERNET LOOK LIKE?
HOW CAN TECHNOLOGY HELP US
TAP INTO COLLECTIVE WISDOM?

INFORMATICS
IS EVERYWHERE.
THIS IS YOUR MAP.

VERNMENT?
AL ENVIRONMENT?
IT TASKING?
ARS DRIVE THEMSELVES?
NEARLY
LOGY?
ES FROM AFAR?

TECHNOLOGY + PEOPLE. DISCUSS.

Informatics. It's the field you've never heard of, and the one you know everything about. In a digital age, technology – how we design it, how we use it and how it affects us – touches all aspects of our lives. It shapes the way we live, the way we work and the way we build the foundations of a global society. Informatics is a window into this dynamic relationship, examining the interplay of people and technology and what it means for our collective future.

On the map as one of the planet's preeminent destinations for the study and practical application of informatics, the Department of Informatics at UC Irvine's Donald Bren School of Information and Computer Sciences represents an unrivaled collection of pioneers in the field. The department brings together scholars, students and practitioners to improve our understanding of technology's extraordinary impact and to create technological innovations that redefine how we experience the world.

How can I access my own health record from any place, at any time?

How does constant connectivity affect family life?

How do we realize the promise of e-government?

How does social media inspire social action?

How can we improve our intergenerational experiences?

How do we control our reputations online?

Do kids benefit from early exposure to technology?

How is online learning transforming the educational landscape?

How do apps enhance or restrict creativity and spontaneity?

Where does our personal data go once it gets collected by information technology?

Can mobile applications improve disaster response?

What are the effects of incessant multitasking?

How are new information infrastructures transforming cities around the globe?

How do we measure productivity when the workday never ends?

Why is e-mail becoming obsolete?

Why are computer games revolutionizing the medical industry?

How will mobile payment systems affect everyday commercial transactions?

What makes something go viral?

Do hackerspaces lead to collective creativity?

How can technology help us tap into collective wisdom?

What does big data mean for science?

How do we ensure the integrity of automotive software in a future where cars drive themselves?

How can we design technology that understands and adapts to our surroundings?

How can technology help us take care of loved ones from afar?

How can IT balance personalized service with privacy laws?

What can social technology do for my productivity?

How can my app distinguish itself in an infinite field of competitors?

Can people around the world shape IT to fit their own cultures?

How do the technologically savvy youth of today impact the technology we must design for tomorrow?

How can crowdsourcing lead to better software?

How can we use technology to build a sustainable natural environment?

What will the next Internet look like?

How can our businesses and organizations leverage newly emerging software ecosystems?

A network diagram with four central nodes and many connecting lines. The nodes are arranged vertically and are connected to each other and to various points on the left and right edges of the frame. The lines are thin and colored in shades of green, red, and blue. The text is centered between the nodes.

CONSTANT CONNECTIVITY

SOCIAL MEDIA

COLLECTIVE INTELLIGENCE

MASSIVE SCALE

A series of thin lines in green, red, and blue originate from the left edge of the page and fan out towards the text. The green lines connect to the word 'LIVE', the red lines to 'WORK', and the blue lines to 'BUILD'.

LIVE

WORK

BUILD



How we live

Increasingly, our everyday experiences are mediated by, and filtered through, diverse technologies that help us navigate the world. We can make purchases by mobile phone. Our health history is captured in expansive databases that are becoming accessible online. Informatics studies these phenomena, revealing patterns that inform our decisions and pioneering fresh approaches to the challenges and opportunities of our digital age.

UNTANGLING THE SOCIAL NETWORK

Today, our social lives play out across a highly intertwined web of real- and virtual-world interactions. The implications are enormous, compelling us to reimagine our understanding of interpersonal relationships and to redefine our expectations of how they continue to unfold. Consider that social media now occupies a prominent place in everything from crisis response to commerce, public policy to scientific discovery. At UC Irvine, the Department of Informatics keeps its finger on the pulse of this movement, not only offering key insight into evolving practices, but also empowering individuals, companies, governments and others to anticipate and leverage these trends in the United States and abroad. One way we do it is through the Center for Social Computing. Funded by an initial investment from Intel, the Center conducts groundbreaking research that explores and builds new understandings of how digital technology is woven into everyday life in areas as diverse as political movements, urban space and consumer analytics. Wherever we turn, technology is changing how we engage with the world around us; knowing what this means – and how it affects us – is crucial.

INNOVATIONS THAT MATTER

In every country and across all walks of life, people encounter situations that make it challenging to care for themselves. Autistic children may have difficulty staying on task. Senior citizens may need assistance ensuring that they take their medicine and get appropriate exercise. For them and for countless others, technology holds tremendous promise in improving quality of life – and the Department of Informatics is at the forefront of exploring the role that it can play. Its Laboratory for Ubiquitous Computing and Interaction (LUCI) is a case in point. LUCI researchers have developed a system to help preterm babies get the best start possible, utilizing accelerometers to recognize a pattern of involuntary gestures that is highly correlated with a diagnosis of cerebral palsy. After an initial trial that yielded a diagnosis accuracy rate of up to 90 percent, LUCI scientists have continued to hone their technique, offering the prospect of early intervention to millions of families worldwide.



How we work

Technology can make completing tasks in the modern workplace both easier and more complicated. Automation boosts productivity but at the potential cost of dividing attention and increasing stress. Real-time mobile communications collapse vast distances yet may undermine employee accountability. Through the lens of informatics, these effects become clear, giving rise to remarkable technologies that put work in a whole new light.

A BRIDGE TO BETTER UNDERSTANDING

For most of human history, the concept of “work” was tied to a specific geographic location. Today, doctors diagnose and operate on patients from afar, software development teams are spread around the world and complex financial networks manage investment portfolios from hubs on every continent. These long-distance arrangements present numerous hurdles to efficient and effective collaboration, and they require the development of novel technologies and new ways of getting a job done. The Department of Informatics provides a unique perspective on the entire spectrum of issues and opportunities that arise from working together, apart. The Collaboration Success Wizard being developed by the Hana Lab showcases one such opportunity. Using data collected from



hundreds of collaborative projects, the Wizard offers an online diagnostic survey that probes factors known to strengthen or weaken collaborations. Based on the input provided by project participants at all levels, the Wizard prepares personal and project-level reports highlighting key areas of concern – vital information for any organization straddling far-flung operations.

TAMING THE INFORMATION JUNGLE

Business grows more data driven – and information dependent – every day. Amazon profiles its users to provide personalized service. Facebook sits atop a trove of information worth billions of dollars in advertising. The provision of health care relies entirely on the ability of databases to organize electronic medical records. Maximizing the use of this information necessitates that businesses achieve a delicate balance between the pursuit of profit and the protection of consumer privacy as mandated by a growing body of international laws. The power of technology leaves room for both, and the Department of Informatics helps us understand how. Collaborating with companies like Samsung, Ericsson and Disney, department researchers are designing solutions that allow sites to cater personalization methods to different jurisdictions and user preferences – while also helping users make sound privacy decisions. The potential boon to business is enormous: People who can control a website’s personalization method disclose more data about themselves and make considerably more purchases.

What we build

Technology is powered by people. From engineers to end users, individuals propel forward the innovations that support and sustain our civilization. Informatics delves into the strategy behind these innovations, exposes their inner workings and blazes a trail to stunning advances in technological capability. Through incisive analysis and inspired creativity, informatics is the building block of a successful modern society.

IDEAS TAKE FLIGHT

Whether it's built by an individual at home, a small business or a corporate behemoth like Google, technology starts as an idea. Fleshing out that idea through design and development involves a multi-faceted process shaped by programming challenges, market competition and the ever-increasing scale of the systems we create. The Department of Informatics is a leader in addressing all aspects of technology production. Our faculty are expanding the horizons of technological possibility with projects like Calico, an intuitive, sketch-based software design environment for use on touch-based devices. A hallmark of design is the creation of many sketches detailing a wide array of potential options; these sketches are continuously modified and refined until an eventual solution emerges. Now in use in places such as the UCI Stem Cell Research Center for clinical trial design and Cooper for interaction design, Calico facilitates and amplifies this creative process to help designers everywhere imagine new possibilities.

CULTIVATING THE CROWD

The notion of "collective intelligence" is altering how we think about what it means to be creative. Crowdsourcing, hackerspaces and the constant evolution of new media enable brainstorming on a massive scale and emphasize the creativity of the group over individual invention. This phenomenon even extends to the scientific realm, where large, cyber-based research collectives partner to solve the most difficult problems. Unpacking the phenomenon, as well as crafting tools, advancing projects and shaping policy in this domain, is the province of informatics, and our department is world-renowned for leading the way. "Values in Design," our annual, intensive summer workshop attended by graduate students in a range of disciplines and from around the globe, helps illustrate the centrality of our role. By bringing together tomorrow's leaders in social theory, design, computer engineering and business, the workshop explores – through the building of prototypes – how values are being woven into the fabric of new technology infrastructures.

Get Involved

Our research is strongly tied to the real world – addressing pressing challenges that people face every day. Firmly rooted in a philosophy that sustainable innovation demands creative collaboration, the Department of Informatics fosters partnerships that bridge the academic and business realms. From hosting projects for our students, to strengthening our corporate partners program, to launching new strategic initiatives, we seek to forge deep mutual commitments that advance technological discovery.

OPPORTUNITIES FOR ENGAGEMENT

- Champion research that has vital societal impact.
- Support our talented students through much-needed scholarships and fellowships.
- Provide real-world projects for our undergraduate courses.
- Become a mentor to our students.
- Share your talent through panel discussions and tech talks.
- Collaborate on research that is relevant to your organization.
- Help set the agenda that drives the future of technology.

JOIN US

Working together, we can harness the power of informatics to improve how we live, to transform how we work and to guide what we build toward new heights of accomplishment.

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