TRAILBLAZERS

Many alumni and faculty in the department of Human Centered Design & Engineering have made significant contributions to academia, industry and research. Here are some outstanding examples of how HCDE is changing the world:

Cecilia Aragon (Professor) is the director of HCDE's Human-Centered Data Science Lab, which uses visualizations, games, and other software to explore human-computer interaction. In 2018, Aragon will travel to Chile on a Fulbright scholarship and teach visual analytics and conduct research on social media analysis. As the first Latina to become a full professor in engineering at UW, Aragon mentors other women of color to become engineers.

Alexis Hiniker (Ph.D. '17) is an assistant professor in UW's Information School, where she researches the role of technology in the lives of families and children. She co-founded a startup, Go Go Games, which develops iPad games to help children with autism spectrum disorders learn to recognize various features of objects around them. She received a Parent's Choice Gold Award for this work.

Jasmine Lawrence (M.S. '17) is a technical program manager at SoftBank Robotics America. Previously, she was a program manager at Microsoft, serving on the HoloLens Experience team which created customer-driven mixed reality applications for enterprise partners. On the Xbox engineering team, she developed cross-platform social experiences for gamers worldwide. At the age of 13, Lawrence founded EDEN BodyWorks, a natural hair and body care products company that sells at stores nationwide.

Kate Starbird (Assistant Professor) is the director of HCDE's Emerging Capacities of Mass Participation Laboratory. Her team investigates the dynamics of massive participation and interaction enabled by new and social media platforms. Focusing on specific crisis events and major political issues, Starbird examines the flow of interactions and explores possibilities for applying online participation to problem-solving on a global scale.

Amy Wang (B.S. '16) is a user experience designer at Google, where she designs web services for families and children. Wang served as the president of the UW chapter of the Society of Women Engineers for two years and worked as a UX design intern in UW's central marketing department and an IT analyst intern at Cisco Systems. As a senior, she was inducted into the inaugural Husky 100 cohort.

James Williams (M.S. '08) is a doctoral student at Oxford University where he researches the design ethics of digital technologies. In 2017, he was awarded the inaugural Nine Dots Prize for his essay on the influence of digital technologies on politics, receiving a $100,000 award and a book deal with Cambridge University Press. Williams previously worked at Google, where he received the Founders' Award, the company's highest honor, for his work on advertising products and tools.

"The research and educational programs in the department of Human Centered Design & Engineering are setting the standard for the design of innovative technologies that put people first. Many of our graduates take key leadership roles across industries that value humans during the design process, resulting in award-winning products."

– David W. McDonald, Department Chair and Professor

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PUTTING PEOPLE FIRST, WE RESEARCH, DESIGN, AND ENGINEER INTERACTIONS BETWEEN HUMANS AND TECHNOLOGY.

OUR MISSION

Students and faculty come together in Human Centered Design & Engineering (HCDE) at the University of Washington to design solutions to global challenges by tailoring technology to human needs and interests. By employing engineering approaches rooted in a broad range of disciplines, we investigate the interaction of people with technology and technical development. From user-centered design to human-computer interaction, we are designing the future.

EDUCATING TOMORROW'S LEADERS

Students in HCDE build a strong foundation in designing user experiences and interfaces, creating information visualizations, conducting usability research, designing for the web, and building web technologies. Beyond traditional classroom coursework, students join research groups and collaborate with faculty to address a wide range of research and design challenges. HCDE graduates find jobs as multimedia and web developers, usability engineers, interface designers, user experience researchers and information architects at high-tech companies.

INTERDISCIPLINARY RESEARCH

Our department has a world-renowned reputation for excellence in interdisciplinary research. Our success is grounded in our faculty, who come from fields as diverse as computer science, linguistics, public policy and English. From experimental studies of communication design variables to cultural studies of technology, their award-winning research breaks new ground and has broadened the knowledge base of the discipline.

DEGREE PROGRAMS

Bachelor of Science (B.S.) provides a solid foundation in designing user experiences and interfaces, creating information visualizations, conducting user research, and designing and building web technologies.

Master of Science (M.S.) fosters students' knowledge and skills to design and evaluate technologies and user interfaces, and prepares students for leadership roles in information design, user experience design, user research, human-computer interaction, design thinking and related specializations.

Doctor of Philosophy (Ph.D.) prepares students for notable careers in academia, industry, and government. Students conduct original research to design and engineer systems to support human endeavors.

The User-Centered Design (UCD) Certificate provides graduate-level students the opportunity to explore the latest theories, tools and techniques in user research and user-centered design.

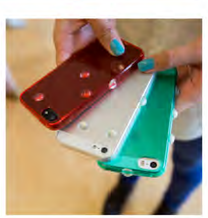
STUDENT DEMOGRAPHICS

Undergraduate enrollment 2017: 220
Bachelor's degrees awarded: 66

Graduate student enrollment 2017: 243
Master's degrees awarded: 71
Doctoral degrees awarded: 4

Diversity of Degree Recipients	B.S.	M.S.	Ph.D.
Women	61%	56%	60%
Underrepresented Minorities*	13%	2%	1%
Asian Americans	36%	19%	8%
Foreign Nationals	15%	19%	28%

** African American, Latino, American Indian and Hawaiian/Pacific Islander*



FACULTY

Composition

- 21 active core teaching and research faculty
- 12 adjunct faculty

Honors

- Seven CAREER Awards from the National Science Foundation
- One MIT Technology Innovator Under 35 Honor
- One Presidential Early Career Award for Scientists and Engineers
- Four Jay R. Gould Awards for Excellence in Teaching from the Society for Technical Communication
- Two William Elgin Wickenden Awards from the American Society of Engineering Education

CORPORATE AFFLIATES PROGRAM

The Human Centered Design & Engineering Corporate Affiliates Program provides a direct line between industry partners and HCDE students and faculty. Affiliates sponsor student projects, ranging from small-scale coursework to major research projects led by department faculty and doctoral students. Current corporate affiliates program members include Alaska Airlines, Expedia, IBM Design, Intel, Nasa Jet Propulsion Laboratory, Premera Blue Cross, and Tableau.

CAREERS IN HCDE

HCDE graduates find careers as designers and researchers who improve people's interactions with technology and the world around them. The department provides students with many career resources, including a jobs and internship database, information sessions with employers and an annual career fair.

A recent survey of recent graduates found these common job titles of amongst HCDE alumni:

- User Experience (UX) Designer
- User Experience (UX) Researcher or User Researcher
- Software Engineer, Developer or Analyst

86% of our career-seeking survey respondents were hired by their employer within three months of graduating, including 52% who were hired before they graduated from HCDE. 6% of survey respondents were enrolled in a program of continuing education.

RESEARCH AND INNOVATION

HCDE faculty's research and teaching focus on six interrelated areas of study:

INFLUENCING BEHAVIOR, THINKING, AND AWARENESS

We develop interventions and design new tools to support or prompt positive changes in people's behavior, thinking or awareness. Focus areas include:

- Health and wellness
- Leisure
- Education
- Civic engagement
- Politics
- Social influence
- Persuasive technology
- Behavior change
- Reflection, mindfulness and awareness
- Incentives and motivation

DESIGN FOR EMERGENT COLLABORATIONS AND ORGANIZATIONS

We develop digital technologies to enable people to collaborate and interact in novel ways. With a focus on the emerging uses, current practices and organizational arrangements of collaborative technologies, we design, implement and assess sociotechnical systems. Our research spans decision making, leisure, work, volunteerism, creativity and innovation. Research domains include:

- Crisis informatics
- Maritime operations
- Collaborative text production
- Infrastructure studies

DATA SCIENCE AND DATA VISUALIZATION

We focus on the design, implementation, and evaluation of human-centered systems and techniques, such as visual analytics to support collaborative activities in environments that generate and require very large and complex data sets.

MATERIAL AND EMBODIED TECHNOLOGIES

With a focus on the intersection of craft and digital fabrication across platforms and form factors, we evaluate the impact of computing on other technologies and on social relationships and communities. With applications in home energy monitoring, 3D printing and technology repair, areas of research include:

- Maker cultures
- Craft and repair
- Physical computing
- Open source hardware
- Digital fabrication
- Infrastructure studies
- Science and technology studies

LEARNING IN PROFESSIONAL AND TECHNICAL ENVIRONMENTS

Our research spans:

- Professional development and identity
- Translation of knowledge into action
- Expertise in problem framing
- Representation of design contexts
- Digital interfaces
- Reflection
- Engineering learning
- Design learning
- Language learning
- Learning from text

LOW RESOURCE AND UNDERSERVED POPULATIONS

With a focus on resource-constrained environments, we develop and deploy technologies to broaden the adoption of diverse technological solutions that can serve multiple populations. Areas of research include:

- Low-resource environments
- High-risk and safety-critical environments
- Complex systems
- Crisis informatics
- Disaster and humanitarian response
- Humanitarian relief
- Information and communication technologies for development
- Human-computer interaction for development