

TAWANNA R. DILLAHUNT

608 West Street, Pittsburgh, PA 15221 | 503-828-1473 | tdillahu@cs.cmu.edu

RESEARCH INTERESTS AND OBJECTIVE

I am interested in human-computer interaction (HCI). My research interests lie in using social and ubiquitous computing to motivate and encourage positive behaviors. Currently, I am researching how to motivate environmentally sustainable in low-income communities, specifically *via* home energy use.

EDUCATION

Carnegie Mellon University, Pittsburgh, PA
PhD in Human Computer Interaction
Advisor: Jen Mankoff (CS)

2011

Oregon Graduate Institute School of Science and Engineering at Oregon Health and Science University
M.S. in Computer Science (Human Computer Interfaces emphasis)

2005

North Carolina State University, Raleigh, NC
B.S. in Computer Engineering
Magna Cum Laude

2000

HONORS AND AWARDS

Xerox Technical Minority Scholarship recipient
National GEM Fellowship (Sponsored by Intel)
Intel Business Client Group Division Recognition Award (DRA)
Intel Desktop Platform Group DRA
National Society of Black Engineers Fellow
Eta Kappa Nu
North Carolina State Fellow
NACME scholarship recipient
Inroads Intern
NASA Sharp Plus Apprentice

2009
2007 – 2008
2005
2001
1999 – 2000
1999
1998
1997 - 2000
1996 – 1999
1995

WORK EXPERIENCE

Carnegie Mellon University, Pittsburgh, PA
Human Computer Interaction Institute
Advisor: Dr. Jennifer Mankoff

Energy Use in Low-Income Communities

Evaluating the overall environmental awareness and concerns of residents in low-income communities and across different economic models. Conducting semi-structured interviews and surveys of residents living in public housing communities and on the HUD Voucher Program (Section 8). This study is being conducted in Eastern, NC and Pittsburgh, PA. Our goal is to identify implications for the design of persuasive technologies in the domain of home energy use to promote environmental sustainability.

Fall 2008 - Current

UbiGreen

Participated in a joint collaboration between Carnegie Mellon University, the University of Washington (UW), and Intel. Conducted a field study of 8 participants in the Pittsburgh area joint field study done in Seattle) to determine the affect of a MyExperience application called UbiGreen. Application promoted and encouraged positive transportation behaviors detected via an Intel Mobile Sensing Platform device and a cell phone movement detection algorithm (similar to triangulation). This study leveraged the concept of using a virtual polar bear and a virtual tree to help encourage sustainable transportation practices. Conducted interviews, aided in technical problem solving, installed the necessary hardware and software required to duplicate the study in Pittsburgh, identified early defects in the UW Activity Designer application. Collaborated with a team of faculty, industry, and student researchers.

Spring and Summer 2008

Motivating Sustainable Behavior Changes with a Virtual Polar Bear

Designed a study to determine if there is a correlation between emotional attachment and sustainable behavior. Developed a virtual polar bear whose affect and circumstances (size of ice floe) improved as the user

makes more commitments to green behavior. Results showed that emotional attachment to a virtual polar bear could translate into concern for the environment and a tendency towards taking sustainable actions.

PROFESSIONAL EXPERIENCE

Intel Corporation, Business Client Group, Hillsboro, OR

Network Software Engineer: LAN Access Division

Implemented base driver features for the Intel Device Management Extensions (DMIX) SetupBD component/application, maintained the component responsible for uninstallation (PROUnstl), and managed the deployment of webpacs, the application packaging all components for the DMIX application. Addressed defects across all levels of the DMIX application, worked closely with the Human Factors Engineer (HFE) to serve as a backup while he was on a two month sabbatical.

2006 - 2007

Software Validation Lead: User-Centered Platform Solutions Division

Created software test plan, software test descriptor, communicated weekly test matrices and validation indicators, held weekly bug scrubs, and led up to three technicians and contractors to ensure proper validation of the Intel Integrator Toolkit Framework Edition (ITK-FE) 2.10 product. Owned and drove the completion of the readiness criteria ensuring all processes were followed completely. Simultaneously led validation for the unplanned release of ITK-PE 1.0.1 to Release to Manufacturing while leading ITK-FE 2.10 validation. Aided ramp-up of Kulim engineer on software processes in preparation for ITK validation in Kulim. Wrote a communication document that included the communication process between the Oregon and Kulim teams during the validation of all ITK products, the process for acquiring boards for ITK testing and defect tracking, the agenda for synchronization meetings, a template for the content of weekly and daily status reports, and a list of key contacts and their roles and responsibilities.

2005 - 2006

Software Engineer: User-Centered Platform Solutions Division 2000 - 2005

Worked five years as a software developer on the following Intel® Desktop board products: Intel Integrator Toolkit (ITK for Windows, Windows PE, and DOS) the Intel Desktop Control Center (IDCC), and the Intel Viiv software installer implementing various software components. The toolkit is a utility for professional system integrators that allow them to automate the manufacturing process by creating customized system configurations and replicating systems with these configurations. IDDC allows enthusiasts to maximize the performance of their desktop boards; and the Intel Viiv software installer installed software components necessary for Intel Viiv Technology.

General Electric Lighting, Nela Park, OH

1999

Network Summer Intern: Global Infrastructure

Updated the network database using MS Access, created segment utilization and LAN segment health reports using Business Objects software, and distributed reports using Business Objects. These reports were used to gather data such as network peak time usage, minimum time usage and outages to help further improve the network.

International Business Machines, RTP, NC

Inroads Summer Intern: IBM Networking Hardware Division

Created OS drive images for a PC download tool to help automate Token Ring Adapter testing, simulated various components of ATM adapters using a Lattice software application tool, performed adapter testing using analyzers and scopes as outlined in hardware verification test plan, soldered, debugged, and populated adapters to ensure defects were not true hardware defects.

1998

Inroads Summer Intern: Software Division, RTP, NC

Provided hardware support for Translation Verification Process testing (XVT), tested accuracy of IBM Personal Communications software test plans for XVT, setup and configured platforms and software for 15 different countries, coded small program for Team installation group, attended IBM classes in C++ and HTML.

1996, 1997

OUTREACH

National Society of Black Engineers, Portland Alumni Chapter, Treasurer
Intel, Volunteer (Oregon Food Bank, University Park Community Center, CLICK, etc.)

2005 - 2006

2000 - 2007

TECHNICAL SKILLS/COURSEWORK

MFC/MS Visual Studio 6.0, .NET 2003

C/C++, COM, some Python, InstallShield

Object-Oriented Analysis and Design

Social Web

Introduction to Software Engineering and Software Engineering Processes

PUBLICATIONS

Dillahunt, T., Becker, G., Mankoff, J. and Kraut, R. (2008). Motivating environmentally sustainable behavior changes with a virtual polar bear. *Pervasive'08 Workshop on Pervasive Persuasive Technology and Environmental Sustainability*.

Froehlich, J., Dillahunt, T., Klansja, P., Mankoff, J., Harrison, B., Consolvo, S., Kraut, R. and Landay, J. (2008). Exploration of a mobile tool for tracking and supporting green transportation habits. *Accepted to CHI' 09*.

Lee, M., Dillahunt, T., Pendleton, B., Kraut, R., Kiesler, S. (2009). Tailoring Websites to Increase Contributions to Online Communities. *Accepted as a CHI WIP '09*