Research Scientist — HCI & Design Activity

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#### Research Interests

**Design** — Design of interaction between human & computers (HCI) Mobile/Wearable Computing — Actions & Affects **Artificial Intelligence** —learning, and recognition (functions)

#### Education

2009 - 2017Ph.D., Human-Computer Interaction, Iowa State University Dissertation: Emotion Centered Design: Affect, Think and Act

GPA: 3.85/4.00

08-09/2011 Graduate Certificate, Affective Science & Computing, Swiss Center for Affective

Sciences, University of Geneva, Switzerland

Course of Study: Verbal and Nonverbal Expression of Emotions

2000-2005 B.Sc., Computer Engineering, Erciyes University

Kayseri, Republic of Turkey

# Awards & Honors

- 2009 2016Multiple Professional Development Grants — Iowa State Departments Offered by Graduate and Professional Student Senate, HCI & ECpE Department
  - 2013 Conference Registration Pass — The Conference Organizing Committee attended Grace Hopper Celebration of Women in Computing Conference
  - 2012 Full Conference Attendance Grant — Northrop Grumman, USA attended Grace Hopper Celebration of Women in Computing Conference
  - 2011 Travel & Summer School Registration Grants — 2 different institutions offered by Iowa State University & Turkish National Ministry of Education attended Int. Summer School in Affective Sciences.
  - 2011 Full Conference Attendance Grant — Microsoft USA, & Google USA attended CRA-W Grad Cohort for Women Meeting (Women in Graduate Programs in Computing Fields)
  - 2011 Social Innovation Leaders training award — Dell Inc. Company, USA
- 2009 2014PhD scholarship in Wearable Computers, Turkish National Ministry of Education

# **Professional Experience**

	After PhD
2017 –	Design Scientist (HCI), Correct & Complete Designs Kayseri, Republic of Turkey
	a newly establishing "start-up company" working towards the goal of correcting and/or completing the designs of interactions with computational tools and devices.
2017 –	Research Scientist, Nature & Design Kayseri, Republic of Turkey
	a newly establishing "start-up company" working at the intersection of machine learning, activity / affect recognition and mobile/wearable computing
2018 –	Lecturer, Erzurum Technical University teaching "Digital Logic Design" course ( to 2nd year undergraduate students) compulsory public service (in exchange of graduate scholarship)
	During PhD
2009 – 2017	PhD Researcher, Virtual Reality Applications Center (VRAC) Iowa State University, Ames, IA, USA
	Studied interaction designs between human and computers (HCI), developed a new design method, called "emotion centered design", decoding the sequences of action responses between two people.
	developed a new method recognizing human affects (emotion, personality etc.) from bodily interactions with devices.
02-04/2011	Business/Product Idea Developer Ames, IA, USA
	a newly establishing "start-up company" working at the intersection of social computing, and skill exchange between start-up companies.
	Before PhD
2006 – 2009	Graduate Researcher, Gazi University Ankara, Republic of Turkey
	Studied artificial intelligence (AI), machine learning (ML) and computer security.
2006-2007	Business Project Manager Eskisehir, Republic of Turkey
	A newly establishing start-up company working at the intersection of artificial intelligence and logistics operations.
2007 – 2009	Prospective Student Advisor, Gazi University Ankara, Republic of Turkey
2005 – 2009	Undergraduate Academic Advisor, Gazi University Ankara, Republic of Turkey
2005 – 2009	Lab Instructor, & Guest Lecturer, Gazi University Ankara, Republic of Turkey

2005 – 2009 Editorial Assistant — Journal of Engineering and Architecture
 Gazi University, Ankara, Republic of Turkey
 2005 – 2009 Teaching Assistant, Gazi University
 Ankara, Republic of Turkey

# **Project Experience**

		Troject Experience
		HCI Projects
H10	2017	Interaction Researcher/Designer - Mobile & Wearable Devices September 2009 - July 2017 (7 years 11 months), Iowa State University
H09	2014	<b>UX Researcher - Multimedia Storytelling Experience</b> November 2013 - February 2014 (4 months), Iowa State University
H08	2014	HCI Researcher - (Social) Interaction with Multimedia February 2014 - August 2014 (7 months), Iowa State University
H07	2013	Mobile HCI Researcher - Mobile Devices & NLP March 2013 - September 2013 (7 months), Iowa State University
H06	2013	Mobile HCI Researcher - Typing/Texting on Mobile Devices September 2012 - March 2013 (7 months), Iowa State University
H05	2013	Mobile HCI Researcher - Touch Gesture on Mobile Surfaces April 2013 - August 2013 (5 months), Iowa State University
H04	2013	HCI Researcher - (Social) Interaction via Second Screens January 2013 - March 2013 (3 months), Iowa State University
H03	2012	UX Researcher - Social TV Viewing Experiences July 2012 - December 2012 (6 months), Iowa State University
H02	2011	UX Researcher/Designer - Mobile Interactions August 2009 - September 2011 (2 years 2 months), Iowa State University
H01	2011	UX Researcher - Color Selection & Visual Designs March 2011 - July 2011 (5 months), Iowa State University
		Design Projects
D07	2017	Theoretical HCI Researcher - Incomplete Experiences September 2011 - July 2017 (5 years 11 months), Iowa State University
D06	2016	Research Scientist - Design Activity  August 2016 - December 2016 (5 months), Iowa State University
D05	2013	<b>UX Designer - Design Thinking</b> October 2013 - November 2013 (2 months), Iowa State University
D04	2012	<b>UX Designer - Design Thinking</b> February 2012 - June 2012 (5 months), Iowa State University
D03	2012	Interaction Design Developer - Wearable Sensor Design with Arduino April 2011 - January 2012 (10 months), Iowa State University

D02	2012	Design Scientist - Mobile Platforms & Emotion Expression February 2012 - September 2012 (8 months), Iowa State University
D01	2011	<b>Design Scientist - Color Experience</b> September 2011 - December 2011 (4 months), Iowa State University
		Computing Science Projects
CS07	2017	Research Scientist - Artificial Intelligence (AI) & Learning October 2016 - March 2017 (6 months), Iowa State University
CS06	2016	Research Scientist - Data Analysis Methods July 2016 - October 2016 (4 months), Iowa State University
CS05	2016	Research Scientist - Bayesian Learning May 2016 - July 2016 (3 months), Iowa State University
CS04	2014	Computer Research Scientist - Sensor Data Processing & ML August 2014 - December 2014 (5 months), Iowa State University
CS03	2013	Computer Research Scientist/Analyst - Information Retrieval / NLP September 2012 - December 2013 (1 year 4 months), Iowa State University
CS02	2013	Computer Scientist - Sensor Data Processing & ML April 2013 - October 2013 (7 months), Iowa State University
CS01	2010	Data Scientist - Statistical Analysis of Data with R January 2010 - April 2010 (4 months), Iowa State University
		Software Development Projects
SD04	2014	Software Developer - Data Analysis Software October 2014 - December 2014 (3 months), Iowa State University
SD03	2014	Software Developer (iOS) - Multimedia Storytelling App December 2013 - February 2014 (3 months), Iowa State University
SD02	2013	Software Developer - Data Analysis Software April 2013 - June 2013 (3 months), Iowa State University
SD01	2013	Software Developer (iOS) - Mobile Social TV App August 2012 - February 2013 (7 months), Iowa State University
		Human Science Projects (Cognitive Science/Psych, Affective Science)
HS05	2016	Research Analyst (Cognitive Psych) – Cognitive Model Development November 2015 - March 2016 (5 months), Iowa State University
HS04	2015	Research Analyst (Cognitive Science) - Activity Model Development April 2015 - October 2015 (7 months), Iowa State University
HS03	2015	Research Scientist - Affect & Emotion March 2015 - September 2015 (7 months), Iowa State University
HS02	2015	Research Scientist - Affect & Body Expressions January 2015 - March 2015 (3 months), Iowa State University

HS01 2010 Research Scientist (Cognitive Psych) - Memory & Forgetting August 2009 - December 2010 (1 year 5 months), Iowa State University **Patent Applications** 2009-2017 An Apparatus and Method for Recognition of Values from User Activity Kiraz Candan Herdem Patent Office: USPTO 2009-2017 An Apparatus and Method for Emotion Centered Design Kiraz Candan Herdem Patent Office: USPTO **Publications** Dissertation 2017 Emotion Centered Design: Affect, Think and Act Iowa State University, Ames, IA Conference papers In Human-Computer Interaction, top-tier conferences (< 30% acceptance rate) are as—or more impactful than journals; see <a href="http://dx.doi.org/10.1145/1743546.1743569">http://dx.doi.org/10.1145/1743546.1743569</a>. AR: Acceptance Rate C05 2014 Detection of predictability ratings of live events on TV by use of second screens Kiraz Candan Herdem ACM TVx 2014: 2014 ACM international conference on Interactive experiences for TV and online video, Newcastle UK, (39-46), 25% AR C04 2012 Reactions: Twitter Based Mobile Application for Awareness of Friends' Emotions Kiraz Candan Herdem UbiComp 2012: ACM Conference on Ubiquitous Computing, Softec 2012 Workshop, 5-8 September 2012, Pittsburgh, PA Sensing Emotional State of Mobile Users for Improving Mobile Social Interaction C03 2012 Kiraz Candan Herdem Pervasive 2012: ACM Conference on Pervasive Computing, Doctoral Consortium, 18-22 June 2012, Newcastle, UK C02 2012 Sensing Emotional State of Mobile Users for Improving Mobile Social Interaction Kiraz Candan Herdem ISWC 2012: IEEE Symposium on Wearable Computers, Doctoral Consortium, 18-22 June 2012, Newcastle, UK **Designing for Cultural Connections** C01 2012 Peters, A., Mennecke, B., Camou, J., Herdem, K. C., Zhang, L. HCI International 2011, 9-14 July 2011, Orlando, Florida

		Posters
P08	2014	Emotion Recognition Kiraz Candan Herdem Graduate and Professional Student Conference 2014, 4 April 2014, Ames, IA
P07	2012	Sensing Emotional State of Mobile Users Kiraz Candan Herdem ISWC 2012, 18-22 June 2012, Newcastle UK.
P06	2012	Sensing the Emotional state of Mobile Users for improving Mobile Social Interaction Kiraz Candan Herdem ETC 2012, 19 April 2012, Ames, IA
P05	2012	Recognizing Emotional State of Mobile Device Users Kiraz Candan Herdem Department of ECpE Annual Graduate Poster Sessions, 12 April 2012, Ames, IA
P04	2011	Affective Human-Computer Interaction using Wearables in Mobile Context Kiraz Candan Herdem International Summer School in Affective Science 2011, 22- 30 August 2011, Bossey, Switzerland
P03	2011	Designing for Cultural Connections Peters, A., Mennecke, B., Camou, J., <i>Herdem, K. C.</i> , Zhang, L. HCI International 2011, 9-14 July 2011, Orlando, Florida
P02	2010	Developing Techniques for Wearable Memory Rehearsal Devices: A New Method to Aid Memory Recalling Kiraz Candan Herdem ASME 2010 World Conference on Innovative Virtual Reality (WINVR2010) 12-14 May 2010, Ames, IA
P01	2010	New Method for Robots: Learning to press Doorbell Buttons Kiraz Candan Herdem HCI 575 Computer Perception Class Showcase, April 2010, Ames, IA
		Technical Reports & Proposals
TrP03	2013	Emotion Detection and Affective Interface Design Kiraz Candan Herdem Preliminary Exam Proposal, October 2013, Ames, IA
TrP02	2010	Long Term Object Possession Kiraz Candan Herdem Psych 516 Advanced Cognition Class Research Proposal, Nov 2010, Ames, IA
TrP01	2009	Technology Solutions for People Suffering from Memory Problems: Alzheimer, Dementia, and Other Diseases Kiraz Candan Herdem HCI 655 Class Project, December 2009, Ames, IA

# Manuscripts

Under review 2019 -HCI people design for user experiences. Kiraz Candan Herdem Journal: Human - Computer Interaction, Taylor Francis An analysis study on what HCI people do in design projects. 2019 -HCI people are designers, but they are scientists, as well! Kiraz Candan Herdem Journal: ACM ToCHI - ACM Transactions on Transactions on Computer-Human Interaction An analysis study answering the question of "who are hci people/professionals". 2019 -Designers' positions & functions in the new contextual settings of design projects Kiraz Candan Herdem Journal: MIT Design Issues An analysis study answering the question of "who are designers" when considered that HCI people do the design tasks. **Teaching Experience** as a Guest Lecturer FALL 2007 Object Oriented Programming, Gazi University Ankara, Republic of Turkey a topic as part of Software Engineering, an undergraduate class. as a Teaching Assistant FALL 06-08 Software Engineering, Gazi University Ankara, Republic of Turkey an undergraduate class. SPRING 07-08 Computer Programming I, Gazi University Ankara, Republic of Turkey The class covers the topic of "C Language & Functional Programming", an undergraduate class. FALL 2007 Computer Programming II, Gazi University Ankara, Republic of Turkey The class covers the topic of "C# and Object Oriented Programming". FALL 2008 Computer and Information Security, Gazi University Ankara, Republic of Turkey a graduate class.

### SPRING 06–09 Discrete Mathematics, Gazi University Ankara, Republic of Turkey an undergraduate class. as a Laboratory Instructor SPRING 07-08 Computer Programming I Lab, Gazi University Ankara, Republic of Turkey The lab class is to help students develop their practical skills on "C and Functional Programming", an undergraduate lab. FALL 2007 Computer Programming II Lab, Gazi University Ankara, Republic of Turkey The lab class is to help students develop their practical skills on "C# and Object Oriented Programming", an undergraduate lab. SPRING 07 – 09 Physics Lab, Gazi University Ankara, Republic of Turkey an undergraduate lab. **Talks** Paper Talks 2014 "Neural-Network Modeling of Bayesian Learning and Inference" Iowa State University, Ames, IA, USA 2011 "Crowd sourcing: Why People Participate in These Studies?" Iowa State University, Ames, IA, USA 2010 "ContraVision: Exploring Users' Reactions to Futuristic Technology" Iowa State University, Ames, IA, USA Research Talks 2011 **Color Perception** Feb 25, 2011, Iowa State University, Ames, IA, USA 2010 Wearable Memory Aid Technologies Iowa State University, Ames, IA, USA 2010 Social Networking Site Design for Older Adults October 2010, Iowa State University, Ames, IA, USA 2010 New Methods for Robots: Learning to Press Doorbell Buttons April 2010, Iowa State University, Ames, IA, USA

**External Memory Aid Devices** 

April 2010, Iowa State University, Ames, IA, USA

Data Mining with R: Exploring Global Terrorism Database

2010

2009

#### 2009 **Visual Representation of Informational Data Structures**

December 2009, Iowa State University, Ames, IA, USA

## **Services**

Conference Organization

2006 Organizing committee member, National E-signature Conference

Ankara, Republic of Turkey

use of electronic signatures on online platforms

Departmental Tasks

2005 - 2009Committee Member, CEng Department, Gazi University

Ankara, Republic of Turkey

a committee created for evaluating outcomes of industry oriented internship based on student reports.

# Professional Membership

09/2014 -Interaction Design Association - IxDA

09/2009 -ACM, Association for Computing Machinery

2012 -Systers group

> Professionals in the group, who are participated at Grace Hopper Celebration of Women in Computing Conference.