Matthew L. Lee

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Curriculum Vitae

RESEARCH INTERESTS

My research interests lie at the intersection of human-computer interaction, ubiquitous computing, informatics, and applications in real-world problems of health and social connections. I am interested in bringing about the future of mobile and ubiquitous computing by tracking and making sense of the simple actions that people do in their everyday lives to reveal rich patterns about people's behaviors and help people achieve their goals.

I am currently a researcher at FXPAL where I investigate ways to use new streams of sensing/data to enable smarter behavior change and better communication for people to get their work done.

I have designed, deployed, and evaluated systems that intelligently sense and record life logs of people's everyday behaviors for reflection. I have investigated the processes people use to make sense of detailed, long-term sensor data about their everyday behaviors for behavior change. My multi-disciplinary approach is grounded in extensive fieldwork for formative needs-gathering research as well as for summative field evaluations of built systems.

PROFESSIONAL EXPERIENCE

2016-present   **FXPAL**, Palo Alto, CA
Research Scientist

2012-2015   **Philips Research North America**, Briarcliff Manor, NY
Member of Research Staff

2005-2012   **Carnegie Mellon University**, Human-Computer Interaction Institute, Pittsburgh, PA
Graduate Research Assistant

2006   **Microsoft Research**, Computer-Mediated Living Group, Cambridge, United Kingdom
Research Intern

2004-2005   **Oracle Corporation**, ADF Faces Team, Redwood Shores, CA
Member of Technical Staff

2002-2003   **University of California, Berkeley**, EECS Department, Berkeley, CA
Teaching Assistant, CS160: User Interface Design
Lab Assistant, CS3: Introduction to Symbolic Programming

2003   **Lockheed Martin Corporation**, Advanced Technology Center, Sunnyvale, CA
Senior Specialist Intern

2002   **Group for User Interface Research**, UC Berkeley, Berkeley, CA
Undergraduate Researcher

2001   **BravoBrava!**, Play Team, Emeryville, CA
Research and Development Intern

EDUCATION

2012   **Ph.D. in Human-Computer Interaction**
Carnegie Mellon University, School of Computer Science
Committee: Anind K. Dey (chair), Scott Hudson, Sara Kiesler, Judith Matthews, Elizabeth Mynatt

2009 **M.S. Computer Science**
Carnegie Mellon University, School of Computer Science

2003 **B.A. Cognitive Science & Computer Science**
University of California, Berkeley

2002 **Visiting Scholar**
Oxford University, St. Catherine's College

HONORS + AWARDS

2014 Best Paper Award, CHI 2014

2011 Best Paper Honorable Mention, CHI 2011 Conference

2011 Intel PhD Fellowship Nomination by School of Computer Science

2010 $480,000 ProjectHealth Design Grant, Robert Wood Johnson Foundation

2009 U.S. Patent (Provisional): Apparatuses and Methods for Lifelogging (MemExerciser project)

2008-09, 2011 Elevator Pitch Competition, First Place, Quality of Life Technology Center

2006-08 NSF Graduate Fellowship in Assistive Technology, IGERT program

2006 NSF Graduate Research Fellowship, Honorable Mention

2002 Phi Beta Kappa, UC Berkeley

1999-2003 National Merit Scholarship, Finalist and Scholar

2001 U.S. Patent: Multi-modal Interactive Television

1999-2001 Dean's List, UC Berkeley

1999 Leadership Scholarship, California Alumni Association

PUBLICATIONS

CONFERENCE PAPERS **Real-time Feedback to Improve Medication Taking**
Matthew L. Lee & Anind K. Dey
Conference on Human Factors in Computing Systems (CHI'14), Toronto, BC, Canada, 2014. (22.8%)
Best Paper Award (top 1%)

Reflecting on Pills and Phone Use: Supporting Awareness of Functional Abilities for Older Adults.
Matthew L. Lee & Anind K. Dey
Conference on Human Factors in Computing Systems (CHI'11), Vancouver, BC, Canada, 2011. (23%)
Best Paper Honorable Mention (top 5%)

Embedded Assessment of Older Adults: A Concept Validation.
Matthew L. Lee & Anind K. Dey
Conference on Pervasive Computing Technologies for Healthcare (PervasiveHealth), Munich, Germany, 2010.

Lifelogging Memory Appliance for People with Episodic Memory Impairment.
Matthew L. Lee & Anind K. Dey
Conference on Ubiquitous Computing (Ubicomp'08), Seoul, Korea, 2008.

Providing Good Memory Cues for People with Episodic Memory Impairment
Matthew L. Lee & Anind K. Dey
Conference on Computers and Accessibility (ASSETS'07), Phoenix, AZ, USA, 2007.

Connected Giving: Ordinary People Coordinating Disaster Relief on the Internet.
Cristen Torrey, Matthew Lee, Moira Burke, Anind Dey, Susan Fussell, & Sara Kiesler
Hawaii International Conference on Science Systems (HICSS'07), Manoa, HI, USA, 2007.

MiTV: Rethinking Interactive TV.
Jehan Bing, Jérome Dubreuil, Joanes Espanol, Luc Julia, Matthew Lee, Martin Loyer and Maklouf Serghine
Conference on Virtual Systems and Multimedia (VSMM'01), Berkeley, CA, 2001.

JOURNAL ARTICLES **Sensor-based Observations of Daily Living for Aging in Place**
Matthew L. Lee & Anind K. Dey
Personal and Ubiquitous Computing. September 2014, pages 1-17.

BOOK CHAPTERS /
MAGAZINE ARTICLES **Did I take my meds today?**
Matthew L. Lee
XRDS: Crossroads – Health Informatics. Vol 21, Issue 2, Winter 2014, pages 38-43.

Architecture and Applications of Virtual Coaches
Matthew L. Lee (contrib.), Daniel Siewiorek, Asim Smailagic, & Anind Dey
In *Quality of Life Technology Handbook*, Richard Schulz (Ed.) CRC Press, 2012

Smart Lifelogging Technology for Episodic Memory Support.
Matthew L. Lee & Anind K. Dey
Smart Healthcare Applications and Services: Developments and Practices, Röcker, C. & Ziefle, M. (Eds.) IGI Global, 2011.

Approaches to Authority in Online Disaster Relief Communities after Hurricane Katrina.
Cristen Torrey, Moira Burke, Matthew Lee, Anind Dey, Susan Fussell, & Sara Kiesler
Leadership at a Distance, L. and Weisband, S. (Eds.). Atwater, 2008.

SHORT PAPERS **Wearable Experience Capture for People with Episodic Memory Impairment.**
Matthew L. Kee & Anind K. Dey
International Symposium on Wearable Computing (ISWC'08), Pittsburgh, PA, 2008

Capture and Access Lifelogging Assistive Technology for People with Episodic Memory Impairment.
Matthew L. Lee & Anind K. Dey
Workshop on Intelligent Systems for Assisted Cognition, Rochester, NY, 2007.

TrinetraOCR: Augmented camera phone for the visually-impaired.
Tudor Dumitras, Matthew L. Lee, & Pablo Quinones
International Symposium on Wearable Computing (ISWC'06), Montreux, Switzerland, 2006.

Capturing and Reviewing Context in Memory Aids.
Matthew L. Lee & Anind K. Dey
CHI Workshop on Designing Technology for People with Cognitive Impairments, Montreal, Canada, 2006.

DOCTORAL COLLOQUIA **Creating salient summaries of home activity lifelog data.**
Matthew L. Lee
ACM Conference on Human Factors in Computing Systems (CHI '10), Atlanta, GA, USA, 2010.

Embedded Assessment of Wellness with Smart Home Sensors
Matthew L. Lee
ACM Conference on Ubiquitous Computing (Ubicomp'10), Copenhagen, Denmark, 2010.

Supporting Awareness of Functional Abilities for Older Adults, their Caregivers, and Clinicians
Matthew L. Lee
American Medical Informatics Association Annual Symposium (AMIA'10), Washington D.C., USA, 2010.

INVITED TALKS

2012 **"dwellSense: Wellness Through Sensing and Reflection for Older Adults"**
Health 2.0 Conference, San Francisco, CA, October 2012

2012 **"Sensing and Sense-making of Everyday Actions"**
HCI Seminar, University of Wisconsin at Madison, April 2012

2011 **"Designing and Evaluating Technology for Older Adults"**
TAGLab, University of Toronto, Toronto, ON, Canada, 2011.

2011	**"Older Adults Reflecting on Home Sensor Data"**
	International Symposium on Quality of Life Technology, Toronto, ON, Canada, 2011.
2010	**"The State of the Art in Computer Assisted Cognition"**
	Wilkinsburg Rotary Club, Wilkinsburg, PA, 2010.
2009	**"Creating Salient Summaries for People with Episodic Memory Impairment"**
	First Annual SenseCam Conference, Chicago, IL, 2009.
2007	**"Capture and Access Lifelogging Assistive Technology for Episodic Memory Impairment"**
	Workshop on Intelligent Systems for Assisted Cognition, Rochester, NY, 2007.

PATENT ACTIVITIES

2014	**Personalized Patient Decision Support For Choosing Self-Care Behaviors** (filed)
	Matthew L. Lee & Mariana Nikolova-Simons
2014	**Supporting Patient-Centeredness in Telehealth Communications** (filed)
	Matthew L. Lee & Berthel Tate
2009	**Apparatuses and Methods for Lifelogging** (provisional patent filed, MemExerciser project)
	Anind K. Dey & Matthew L. Lee
2001	**Multi-modal Interactive Television**
	Jehan Bing, Jérome Dubreuil, Joanes Espanol, Luc Julia, Matthew Lee, Martin Loyer and Maklouf Serghine

SELECTED MEDIA COVERAGE

July 2014	**Je m'enregistre, donc je suis ("I register, therefore I am")** [link]
	Le Temps
September 2010	**Technology Solutions for Age-Related Ills** [link]
	AARP Bulletin
March 2010	**A Little Black Box to Jog Failing Memory** [link]
	New York Times
March 2010	**CMU to research sensors to track elderly** [link]
	Pittsburgh Post-Gazette
March 2010	**Testing the Ability of Embedded Sensors to Detect Onset of Dementia, Infirmity** [link]
	Medical News Today
January 2010	**A Helping Hand from a Robot** [link]
	IEEE Spectrum & National Public Radio & National Science Foundation

GRANTS

2009	**Embedded Assessment of Elder Activities for Augmenting Personal Health Records**
	ProjectHealth Design Grant, Robert Wood Johnson Foundation
	$480,000 / 2yrs, Co-written with Anind K . Dey
2006	**Capturing and Reviewing Context for Memory Support**
	Microsoft Research, Digital Memory (Memex) Award,
	$50,000 / 1yr, Co-written with Anind K. Dey

TEACHING

2009	**Human-Computer Interaction Methods** (05-610), 60 students
	HCI Institute, Carnegie Mellon University
	Teaching Assistant for Bonnie John & John Zimmerman

2008   **Software Architectures for User Interfaces** (05-613), 45 students
HCI Institute, Carnegie Mellon University
Teaching Assistant for Scott Hudson

2003   **User Interface Design** (CS 160), 40 students
EECS Department, University of California, Berkeley
Teaching Assistant for Jennifer Mankoff

STUDENTS MENTORED

2015   Yuanyuan Feng, Ph.D in Information Systems, University of Maryland
2015   Pei-Yi Kuo, Ph.D. in Technology and Social Behavior, Northwestern University
2013   Berthel Tate, Ph.D. in Computer Science, Bowie State University (in progress)
2012   Kelechi Anyadiegwu M.S. Human-Computer Interaction, CMU (class of 2013)
2011   Faye Han, M.S. Human-Computer Interaction, CMU (class of 2012)
2011   Vinay Vemuri, B.S. Computer Science, CMU (class of 2013)
2010-11   Xiuyuan Zhang, B.S. Computer Science, CMU (class of 2014)
2010   William Livingston, B.S. Rehabilitation Science, University of Pittsburgh (class of 2011)
2009-10   Clive Myrie, B.S. Electrical Engineering, CMU (class of 2011)
2009   Jonpaul Zelik, B.S. Industrial Eng., Ohio State Univ. (c/o 2010), now pursuing PhD at Univ. of Texas, Austin
2009   Rohith Salim, B.S. Computer Science, CMU (class of 2012)
2009   Joyce Xu, B.S. Computer Science, CMU (class of 2011)
2008-09   Akshay Goel, B.S. Computer Science, Chemistry, CMU (class of 2009)
2007   Jose Ramon Torres, B.S. Computer Science, University of Puerto Rico (class of 2009)

PROFESSIONAL ACTIVITIES / SERVICE

2015   PervasiveHealth Conference, Technical Program Committee
2014   CHI 2015 Conference, Associate Chair, Technical Program Committee Member
2014   HCI-Korea, Doctoral Consortium Panelist
2014   PervasiveHealth Conference, Technical Program Committee & Doctoral Colloquium Panelist
2013   PervasiveHealth Conference, Technical Program Committee
2012   UbiComp 2012 Conference, Publications Chair
2011   CHI 2012 Workshops Committee/Jury Member
2011   Journal Reviewer, Journal of Pervasive and Mobile Computing
2009-10   CHI Works-in-Progress, Committee Member
2009   Journal Reviewer, Memory Journal
2007-11   Student Leadership Council, Quality of Life Technology Center, Research Chair and President
2006   Journal Reviewer, International Journal of Human-Computer Studies

REFERENCES

available upon request