

JAMIE C. MACBETH
CURRICULUM VITAE

CONTACT INFORMATION

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EDUCATION

2010	Ph.D. Computer Science	University of California, Los Angeles
2000	M.S. Physics	Stanford University
1995	B.S. Physics	Brown University

POSITIONS HELD

Start	End	Position
9/2015	Present	Assistant Professor of Computer Science, Fairfield University, Fairfield, CT
1/2014	8/2015	Postdoctoral Research Fellow, Clemson University, Clemson, SC
8/2011	8/2013	Postdoctoral Research Associate, MIT, Cambridge, MA
6/2010	8/2011	Lead Software Engineer Consultant, Fortiss Inc., Los Angeles, CA
9/2004	6/2010	Graduate Research Assistant, University of California, Los Angeles, CA
6/2004	12/2008	Software Engineer Consultant, Neurotone, Inc., Redwood City, CA
8/2001	4/2004	Software Engineer, Euphonix, Inc., Palo Alto, CA
9/2000	6/2001	Senior Software Engineer Consultant, Sony Music Entertainment, Inc., San Francisco, CA
1/2000	9/2000	Software Developer Consultant, Liquid Audio, Inc., Redwood City, CA
9/1995	3/2000	Graduate Research Assistant, Stanford University, Stanford, CA

HONORS, AWARDS, AND FELLOWSHIPS

2014-2015	Provost Postdoctoral Fellowship, Clemson University
Spring 2012	Semi-finalist, 100K Entrepreneurship Competition, MIT
2004-2008	US Department of Education Graduate Assistance in Areas of National Need (GAANN) Graduate Fellowship, University of California, Los Angeles
Spring 2006	Ford Foundation Fellowship Program, Honorable Mention

PUBLICATIONS

Conference Proceedings

- [C1] Xiang Zhang, Jonathan Tong, Nishant Vishwamitra, Joseph Mazer, Robin Kowalski, Hongxin Hu, Feng Luo, Elizabeth Whittaker, Jamie Macbeth, Edward Dillon, “Cyberbullying Detection with a Pronunciation Based Convolutional Neural Network,” *15 IEEE International Conference on Machine Learning and Applications (ICMLA’16)*, Anaheim, CA, December 18-20, 2016. To appear.

- [C2] Terra Blevins, Robert Kwiatkowski, Maha Ahmed, Jamie Macbeth, Kathleen McKeown, Desmond Patton and Owen Rambow, “Automatically Processing Tweets from Gang-Involved Youth: Towards Detecting Loss and Aggression”, *the 26th International Conference on Computational Linguistics (COLING 2016)*, Osaka, Japan, December 13-16, 2016. To appear.

- [C3] Desmond Patton, Kathy McKeown, Owen Rambow, Jamie Macbeth, “Using Natural Language Processing and Qualitative Analysis to Intervene in Gang Violence: A Collaboration Between Social Work Researchers and Data Scientists,” *Bloomberg Data for Good Exchange (D4GX 2016)*, New York City, New York, September 25, 2016.

- [C4] Jamie Macbeth, Marydjina Barionnette, “The Coherence of Conceptual Primitives,” *Advances in Cognitive Systems (ACS-16)*, Chicago, Illinois, June 23-26, 2016.

- [C5] David Piorkowski, Scott Fleming, Christopher Scaffidi, Margaret M. Burnett, Irwin Kwan, Austin Henley, Jamie Macbeth, Charles Hill, Amber Horvath, “To Fix or to Learn? How Production Bias Affects Developers’ Information Foraging during Debugging”, *International Conference on Software Maintenance and Evolution (ICSME)*, Bremen, Germany, September 29-October 1, 2015.

- [C6] Jamie Macbeth, Hanna Adeyema, Henry Lieberman, Christopher Fry, “Script-Based Story Matching for Cyberbullying Prevention,” *CHI 2013 Extended Abstracts: ACM SIGCHI Conference on Human Factors in Computing Systems*, Paris, France, April, 2013

- [C7] Fei Gao, Andrew S. Clare, Jamie C. Macbeth, M. L. Cummings, “Modeling the Impact of Operator Trust on Performance in Multiple Robot Control,” *2013 AAAI Spring Symposium: Trust and Autonomous Systems*, Stanford, California, March, 2013

- [C8] Jamie Macbeth, Missy Cummings, Luca Bertuccelli, Amit Surana, “Interface Design for Unmanned Vehicle Supervision through Hybrid Cognitive Task Analysis,” *Proceedings of HFES 2012: 56th Annual Meeting of the Human Factors and Ergonomics Society*, Boston, Massachusetts, October, 2012

- [C9] Armen Mkrtchyan, Jamie Macbeth, Erin Solovey, Jason Ryan, Missy Cummings, “Using Variable-Rate Alerting to Counter Boredom in Human Supervisory Control,” *Proceedings of HFES 2012: 56th Annual Meeting of the Human Factors and Ergonomics Society*, Boston, Massachusetts, October, 2012

- [C10] Andrew Clare, Jamie Macbeth, Missy Cummings, “Mixed-Initiative Strategies for Real-time Scheduling of Multiple Unmanned Vehicles,” *American Control Conference*, Montreal, Canada, June, 2012

- [C11] Jamie Macbeth, Majid Sarrafzadeh, “Grouped Variable Model Selection for Heterogeneous Medical Signals,” *The Fifth International Conference on Body Area Networks (BodyNets 2010)*, Corfu Island, Greece, September, 2010

- [C12] Jamie Macbeth, Majid Sarrafzadeh, “Shrinking Symbolic Regression Over Medical and Physiological Signals,” *2nd International Conference on Signal Processing Systems (ICSPS 2010)*, Dalian, China, July, 2010

- [C13] Jamie Macbeth, Majid Sarrafzadeh, “Health Econometrics: Respiration-Oxygenation Correlation through Spectral Models” *The 21st IASTED International Conference on Modelling and Simulation (MS 2010)*, Banff, Alberta, Canada, July, 2010

- [C14] Myung-Kyung Suh, Florence-Joy Figueras, Victor Chen, Wen-Sao Hong, Jamie Macbeth, Ani Nahapetian, Lorraine Evangelista, Majid Sarrafzadeh, “WANDA B.: Weight and Activity with Blood Pressure Monitoring System for Heart Failure Patients,” *2nd International Workshop on Interdisciplinary Research on E-Health Services and Systems (IREHSS 2010)*, Montreal, Quebec, Canada, June, 2010

- [C15] Jamie Macbeth, Majid Sarrafzadeh, “Press the Cancel Button! A Performance Evaluation of Scalable In-Network Data Aggregation” *2009 International Conference on Mobile, Wireless and Optical Communication (MWOC 2009)*, Jeju Island, South Korea, December, 2009

- [C16] Jamie Macbeth, Majid Sarrafzadeh, “Link Scheduling for Scalable Data Aggregation,” *The 18th International Conference on Computer Communications and Networks (ICCCN)*, San Francisco, California, August, 2009

- [C17] Jamie Macbeth, Majid Sarrafzadeh, “Scalable Medium Access Control for In-Network Data Aggregation,” *The 5th SIGACT-SIGOPS International Workshop on Foundations of Mobile Computing (Dial M-POMC)*, Toronto, Ontario, Canada, August, 2008

- [C18] Philip Brisk, Jamie Macbeth, Ani Nahapetian, and Majid Sarrafzadeh “A Dictionary Construction Technique for Code Compression Systems with Echo Instructions,” *ACM/SIGPLAN Conference on Languages, Compilers, and Tools for Embedded Systems*, Chicago, Illinois, June, 2005

- [C19] Philip Brisk, Foad Dabiri, Jamie Macbeth, and Majid Sarrafzadeh “Polynomial Time Graph Coloring Register Allocation,” *14th International Workshop on Logic and Synthesis*, Lake Arrowhead, California, June, 2005

Journal Papers

- [J1] Desmond U. Patton, Jeffrey Lane, Patrick Leonard, Jamie Macbeth, Jocelyn Smith-Lee, “Gang violence on the digital street: Case study of a South Side Chicago gang member’s Twitter communication,” *New Media and Society*, DOI: 10.1177/1461444815625949, to appear in print.
- [J2] Margaret Burnett, Simone Stumpf, Jamie Macbeth, Stephann Makri, Laura Beckwith, Irwin Kwan, Anicia Peters, William Jernigan, “GenderMag: A Method for Evaluating Software’s Gender Inclusiveness” *Interacting with Computers 2016*, doi: 10.1093/iwc/iwv046, to appear in print.
- [J3] Desmond U. Patton, Ninive Sanchez, Dale Fitch, Jamie Macbeth, Patrick Leonard “ ‘I Know God’s Got a Day 4 Me:’ Violence, Trauma and Coping Among Gang-Involved Twitter Users,” *Social Science Computer Review*, DOI: 10.1177/0894439315613319, to appear in print.
- [J4] Desmond Upton Patton, Patrick Leonard, Loren Cahill, Jamie Macbeth, Shantel Crosby, Douglas-Wade Brunton, “ ‘Police took my homie I dedicate my life 2 his revenge’: Twitter tensions between gang-involved youth and police in Chicago” *Journal of Human Behavior in the Social Environment*, DOI: 10.1080/10911359.2015.1127738, to appear in print.
- [J5] M L Cummings, Luca Bertuccelli, Jamie Macbeth, Amit Surana, “Task Versus Vehicle-based Control Paradigms in Multiple Unmanned Vehicle Supervision by a Single Operator,” *IEEE Transactions on Human-Machine Systems*, vol.44, no.3, pp.353-361, June 2014

Book Chapters

- [B1] Edward Dillon, Jamie Macbeth, Robin Kowalski, Elizabeth Whittaker, Juan E. Gilbert, “‘Is This Cyberbullying or Not?’: Intertwining Computational Detection with Human Perception (A Case Study)”, D. Nicholson (ed.), *Advances in Human Factors in Cybersecurity (Advances in Intelligent Systems and Computing 501)*, pp 337-345, Springer International Publishing, Switzerland, 2016. DOI: 10.1007/978-3-319-41932-9_28.

Patents

- [PT1] Sarrafzadeh and Macbeth, “*System for Analyzing Physiological Signals to Predict Medical Conditions*,” US Patent Application 20120221310, August 30, 2012
- [PT2] Kearby, Levine, Modeste, Dayson, and Macbeth, “*Aural Rehabilitation System and a Method of Using the Same*,” US Patent Application 20060093997, May 4, 2006
- [PT3] Kearby, Levine, Modeste, Dayson, and Macbeth “*Aural Rehabilitation System and a Method of Using the Same*.” US Patent Application 20060029912, February 9, 2006

Technical Reports

- [TR1] Jamie Macbeth, Manal Habib, Armen Mkrtchyan, Missy Cummings, “Multi-Autonomous Vehicle Insertion-Extraction System (MAVIES),” Humans and Automation Laboratory Technical Report HAL2011-04, MIT, Cambridge, Massachusetts, December, 2011

Posters

- [P1] Elizabeth Whittaker, Robin Kowalski, Edward Dillon, Jamie Macbeth, “Is it or Isn't it? Cyberbullying in Everyday Life”, Presented at *The 62nd Annual Meeting of the Southeastern Psychological Association (SEPA)*, New Orleans, Louisiana, March 30-April 2, 2016.
- [P2] Robin Kowalski, Allison Toth, Edward Dillon, Jamie Macbeth, Alex Herzog, Jason Thatcher, “Cyberbullying Among Individuals with Disabilities,” Presented at *The Annual Meeting of the Society of Southeastern Social Psychologists (SSSP)*, Winston-Salem, North Carolina, October 23-24, 2015.
- [P3] Jamie Macbeth, Hanna Adeyema, Henry Lieberman, Christopher Fry, “Script-Based Story Matching for Cyberbullying Prevention,” *ACM SIGCHI Conference on Human Factors in Computing Systems*, Paris, France, April, 2013
- [P4] Jamie Macbeth, “Testing Helioseismic Holography”, *The Ninth Solar and Heliospheric Observatory Workshop (SOHO-9): Helioseismic Diagnostics of Solar Convection and Activity*, Stanford, California, July 12-15, 1999

News Media Coverage

- [N1] “In Effort To Curb Violence In Chicago, A Professor Mines Social Media,” Audie Cornish, All Tech Considered, National Public Radio, September 9, 2016
- [N2] “Professor Studies Twitter Threats of Girl Gang Killer in Chicago,” Frank Main, The Chicago Sun Times, June 5, 2016
- [N3] “Chicago’s Murder Problem,” Ford Fessenden and Haeyoun Park, nytimes.com, May 27, 2016
- [N4] “This Algorithm Will Try to Predict Which Gang Threats on Twitter Turn into IRL Violence,” Alex Zimmerman, Vice.com, December 11, 2015
- [N5] “When Social Media Fuels Gang Violence,” Cheryl Corley, National Public Radio, October 7, 2015
- [N6] “Gangs increasingly challenge rivals online with postings, videos,” Annie Sweeney, the Chicago Tribune, August 17, 2015

TEACHING AND STUDENT ADVISING

Teaching Assignments

<u>Semester</u>	<u>Course</u>	<u>Name</u>
Fall 2016	CS101	Introduction to Computing, Fairfield University
Fall 2016	SW407	Java for Programmers, Fairfield University
Fall 2016	SW550/SW551	Capstone Project I/II, Fairfield University

Spring 2016	CS131	Fundamentals of Programming (2 Sections), Fairfield University
Fall 2015	SW407	Java for Programmers, Fairfield University
Fall 2015	CS101	Introduction to Computing, Fairfield University

Curriculum Development

- [CD1] CS101, “Introduction to Computing”, Fairfield University. New and complete course design with focus on debugging-first programming game, and introduction to computing systems.
- [CD2] CS131, “Fundamentals of Programming”, Fairfield University. Course re-design based on an autograder Web site for submission, testing, and grading of programming assignments.
- [CD3] CS152B, “Digital Design Project Laboratory”, University of California Los Angeles, course re-design based on new Xilinx evaluation board, devised harness for automated testing of VHDL design assignments.

Student Advising

- [SA1] Evangelos Boliakis, Duy Creel, William McDonnell, Senior Design Project, Fairfield University (EG390, EG391), Fall 2015 - Spring 2016. Project title: “Jarvis 2.0: Understanding Stories through Artificial Intelligence.”
- [SA2] Armen Mkrtychyan, Ph.D., MIT, 2015. Thesis title: “Modeling Distributed Product Development Processes in Small and Medium Enterprises.”
- [SA3] Alexander Stimpson, Ph.D., MIT, 2014. Thesis title: “A Machine Learning Approach to Modeling and Predicting Training Effectiveness.”
- [SA4] Andrew Clare, Ph.D., MIT, 2013. Thesis title: “Modeling Real-Time Human-Automation Collaborative Scheduling of Unmanned Vehicles”

- [SA5] Alina Griner, M. Eng., MIT, 2012. Thesis title: “Human-RRT Collaboration in UAV Mission Path Planning.”

Teaching Assistantships

<u>Semester</u>	<u>Course</u>	<u>Name</u>
Fall 2007	CS180	Introduction to Algorithms University of California, Los Angeles
Spring 2006	CS152B	Digital Design Project Laboratory University of California, Los Angeles
Winter 2006	CS152B	Digital Design Project Laboratory University of California, Los Angeles
Fall 2005	CS152B	Digital Design Project Laboratory University of California, Los Angeles
Fall 1997	PH41	Mechanics Stanford University

PRESENTATIONS

Invited Talks

- [T1] “Crowdsourcing Deep Thoughts: Meeting the Challenges of In-depth Language Understanding Systems for Smarter Social Media,” Computer Science Department Seminar, Middlebury College, Middlebury, VT, March 12, 2015
- [T2] “Crowdsourcing Deep Thoughts: Meeting the Challenges of In-depth Language Understanding Systems for Smarter Social Media,” Department of Computer Sciences Seminar, Florida Institute of Technology, Melbourne, FL, March 5, 2015

- [T3] “Crowdsourcing Deep Thoughts: Meeting the Challenges of In-depth Language Understanding Systems for Smarter Social Media,” Computer Science Department Seminar, Clarkson University, Potsdam, NY, February 27, 2015

- [T4] “Crowdsourcing Deep Thoughts: Meeting the Challenges of In-depth Language Understanding Systems for Smarter Social Media,” Computer Science Department Seminar, Fairfield University, Fairfield, Connecticut, February 25, 2015

- [T5] “Crowdsourcing Deep Thoughts: Meeting the Challenges of In-depth Language Understanding Systems for Smarter Social Media,” Weapons and Systems Engineering Department Seminar, United States Naval Academy, Annapolis, Maryland, February 20, 2015

- [T6] “Crowdsourcing Deep Thoughts: Meeting the Challenges of In-depth Language Understanding Systems for Smarter Social Media,” Computer Science Department Seminar, Williams College, Williamstown, Massachusetts, February 16, 2015

- [T7] “Crowdsourcing Deep Thoughts: Meeting the Challenges of In-depth Language Understanding Systems for Smarter Social Media,” Computer Science Department Seminar, Worcester Polytechnic Institute, Worcester, Massachusetts, February 13, 2015

- [T8] “Crowdsourcing Deep Thoughts: Meeting the Challenges of In-depth Language Understanding Systems for Smarter Social Media,” Computer Science Department Seminar, University of Alabama, Tuscaloosa, Alabama, January 16, 2015

- [T9] “Crowdsourcing Deep Thoughts: Meeting the Challenges of In-depth Language Understanding Systems for Smarter Social Media,” Institute for Human and Machine Cognition, Ocala, Florida, January 6, 2015

- [T10] “Talking Users into Helpful Actions,” Department of Computer Science Seminar, University of Massachusetts Boston, Boston, Massachusetts, November 19, 2014

- [T11] “Crowdsourcing Deep Thoughts: Meeting the Challenges of In-depth Language Understanding Systems for Smarter Social Media,” Michigan Interactive and Social Computing Seminar, University of Michigan, Ann Arbor, Michigan, November 11, 2014

- [T12] “Talking Users into Helpful Actions,” School of Computing Seminar, Clemson University, Clemson, South Carolina, October 24, 2014
- [T13] “Talking Users out of Harmful Actions,” Department of Computer Science Colloquium, Dartmouth College, Hanover, New Hampshire, January 8, 2014
- [T14] “Story Matching Technologies for Cyberbullying Prevention,” IBM Services Research Symposium, IBM T. J. Watson Research Center, Yorktown Heights, New York, October 22, 2013
- [T15] “Story Matching Technologies for Cyberbullying Prevention,” MIT Lincoln Laboratory, Lexington, Massachusetts, June 3, 2013
- [T16] “Attention States of Vigilance,” Smart Adaptive Reliable Teams for Persistent Surveillance (SMARTS) MURI Annual Review Meeting, MIT, Cambridge, Massachusetts, February 28, 2013
- [T17] “Interfaces and Models for Human-in-the-loop Supervisory Control,” Volpe National Transportation Systems Center, Cambridge, Massachusetts, January 10, 2013
- [T18] “Interfaces and Models for Human-in-the-loop Supervisory Control,” Department of Computer Science Colloquium, Tufts University, Medford, Massachusetts, November 8, 2012
- [T19] “Nuclear Regulatory Commission Boredom Study Attention State Analysis,” Humans and Automation Lab Seminar, MIT, Cambridge, Massachusetts, July 12th, 2012
- [T20] “Systems and Models for Multi-Autonomous Vehicle Insertion and Extraction,” United Technologies Research Center, East Hartford, Connecticut, December 7, 2011
- [T21] “Human-Robot Interactions in Persistent Surveillance,” Smart Adaptive Reliable Teams for Persistent Surveillance (SMARTS) MURI Annual Review Meeting, MIT, Cambridge, Massachusetts, December 1, 2011
- [T22] “Data Collection, Aggregation and Modeling for Medical Monitoring Systems,” Humans and Automation Lab Seminar, MIT, Cambridge, Massachusetts, August 31, 2010

Workshops

- [W1] Sila Sayan, Carlo Mannino, Jamie Macbeth, Hanna Adeyema, Henry Lieberman, Christopher Fry, “Script-Based Story Matching to Encourage Empathy for Social Change,” *Designing Social Media for Change*, CHI 2013, Paris, France, April, 2013
- [W2] Luca Bertuccelli, Amit Surana, Jamie Macbeth, Missy Cummings, “Vehicle vs. Task-based UAV Control Paradigms,” *Quantitative Modeling and Simulation, Quantitative Methods in Defense and National Security (QMDNS 2012)* George Mason University, Fairfax, Virginia, April 30-May 1, 2012

Guest Lectures

- [GL1] “Debugging in Python,” IS585, Fairfield University Dolan School of Business, Fairfield, CT, June 18th, 2016
- [GL2] “An Object-Oriented Linked-List Implementation,” CS201, Middlebury College, Middlebury, VT, March 13, 2015
- [GL3] “Crowdsourcing Conceptual Language Representations,” HCC 831, Fundamentals of Human-Centered Computing, Clemson University, Clemson, SC, September 2, 2014

SERVICE

Program Committees

- [PC1] Program Committee Member, *(Computational) Context. Why It’s Important, What It Means, Can It Be Computed?* AAAI Spring Symposium, AAAI 2017, February, 2017.
- [PC2] Program Committee Member, *Conference on Human Factors in Computing Systems (CHI 2013)*, Works-In-Progress Section

- [PC3] Program Committee Member, *3rd International Conference on Application and Theory of Automation in Command and Control Systems (ATACCS 2013)*

Reviewing

- [R1] Reviewer, *ACM Transactions on Computer-Human Interaction*, June 2016 to present
- [R2] Reviewer, *ACM SIGCHI Conference on Human Factors in Computing Systems (CHI 2016)*, Papers and Notes, October 2015
- [R3] Reviewer, *ACM Richard Tapia Celebration of Diversity in Computing (Tapia Conference 2014)*, Poster Session, September 2013
- [R4] Reviewer, *ACM SIGCHI Conference on Human Factors in Computing Systems (CHI 2013)*, Papers and Notes, October 2012
- [R5] Reviewer, *Interacting with Computers*, 2012 - 2014

Academic Service

- [AS1] U.S. Diversity Subcommittee of Undergraduate Curriculum Committee, Fairfield University, September 2016 - Present
- [AS1] University Athletics Committee, Fairfield University, September 2016 - Present
- [AS1] Curriculum Committee, Fairfield University School of Engineering, January 2016 - Present
- [AS2] Professor of the Practice Faculty Search Committee, Fairfield University School of Engineering, September 2015 - February 2016
- [AS3] Member and Postdoctoral Representative, Committee for Race and Diversity, MIT, September 2012 - September 2013
- [AS4] Postdoctoral Scholar, Ernest Everett Just Academic Mentorship Program, Dartmouth College, September 2012 - Present

Career Mentoring Conferences

- [CM1] Panelist, New Faculty Information Session, Fairfield University, Fairfield, Connecticut, August 31, 2016
- [CM2] Broadening Participant in Artificial Intelligence Workshop, at *The Twenty-Eighth Association for the Advancement of Artificial Intelligence Conference (AAAI-14)*, Organized by CRA-W/CDC, Quebec City, Quebec, Canada, July, 2014
- [CM3] Academic Careers Workshop for Underrepresented Minorities, organized by CMD-IT, CDC, CAHSI and AccessComputing Alliance, the Allen Center, Northwestern University, Evanston, Illinois, March 2014
- [CM4] Career Mentoring Workshop, organized by the Computing Research Association (CRA), the Fairmont Hotel, Washington, District of Columbia, February, 2012,
- [CM5] Future Faculty Workshop, “A Workshop to Promote Diversity and Gender Balance for Prospective Faculty,” organized by the National Science Foundation ADVANCE Program, Northeastern University, Boston, Massachusetts, March, 2012

PROFESSIONAL ORGANIZATIONS

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|--------------|---------------------------------------------------------------------------|
| 2014-Present | Member, Association for the Advancement of Artificial Intelligence (AAAI) |
| 2011-Present | Member, Association for Computing Machinery (ACM) |
| 2011-Present | Member, Institute of Electrical and Electronics Engineers (IEEE) |