

Angela E.B. Stewart  
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Education &  
Academic  
Positions

Carnegie Mellon University  
Human-Computer Interaction Institute  
Postdoctoral Fellow (August 2020 - Present)  
Faculty Principle Investigator: Amy Ogan

University of Colorado Boulder  
Department of Computer Science and Institute of Cognitive Science  
Ph.D. in Computer Science (Graduated July 2020)  
Advisor: Sidney K. D'Mello

University of Notre Dame  
Department of Computer Science  
PhD Student in Computer Science (August 2015 – August 2017)  
Advisor: Sidney K. D'Mello

Auburn University  
Department of Computer Science and Software Engineering  
Bachelor of Software Engineering (Graduated May 2015)  
Summa Cum Laude

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Awards

Best Paper, 10<sup>th</sup> International Conference on Learning Analytics and Knowledge, 2020

Best Student Paper, 21<sup>st</sup> ACM International Conference on Multimodal Interaction, 2019

Distinguished Student Speaker, University of Colorado Boulder Department of Computer Science Colloquia, 2018

Best Student Paper, 10<sup>th</sup> International Conference on Educational Data Mining, 2017

Intern Symposium First Place Winner, Lexmark International, 2015

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Publications  
(In Review/  
Revision)

1. Angela E.B. Stewart, Jaemarie Solyst, Tara Nkrumah, Amanda Buddemeyer, Vaishnavi Gorantla, Stephanie Eristoff, Leshell Hatley, Sharon Henderson-Singer, Kimberly Scott, Erin Walker, Amy Ogan. Layered Perspectives: Understanding Multiple Views of Girls' Engagement in a Virtual Computer Science Camp. In review for Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems, CHI 2022.
2. Angela E.B. Stewart, Tricia J. Ngoon, Daniel Noh, Vaishnavi Gorantla, Stephanie Eristoff, Ung-Sang Lee, Sherice Clarke, John Zimmerman, Amy Ogan. "You Expect Me to Know What 40 Students are Doing?" Data as a Tool to Support Teacher Agency. In review for Proceedings of the 2022 CHI Conference on

Human Factors in Computing Systems, CHI 2022.

3. Jaemarie Solyst, Alexis Axon, [Angela E.B. Stewart](#), Motahhare Eslami, Amy Ogan. Investigating Middle School Girls' Perspectives and Knowledge Gaps on Ethics and Fairness in Artificial Intelligence in a Lightweight Workshop. In review for Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems, CHI 2022.
4. Jaemarie Solyst, Tara Nkrumah, [Angela E.B. Stewart](#), Amanda Buddemeyer, Erin Walker, Amy Ogan. Running an Online Culturally-Responsive Computing Camp for Middle School Girls. In review for Proceedings of the 53<sup>rd</sup> ACM Technical Symposium on Computer Science Education, SIGCSE '22.
5. Chen Sun, Valerie J. Shute, [Angela E.B. Stewart](#), Quinton Beck-White, Caroline Reinhardt, Nicholas D. Duran, Sidney K. D'Mello. The relationship between collaborative problem solving processes and objective outcomes in a game-based learning environment. In review for Computers in Human Behavior.
6. [Angela E.B. Stewart](#), Arjun Ramesh Rao, Amanda Michaels, Chen Sun, Valerie J. Shute, Nicholas D. Duran, Sidney K. D'Mello. CoachCPS: The design and implementation of intelligent collaborative problem solving feedback. In review for Proceedings of the 24<sup>th</sup> ACM Conference on Computer-Supported Cooperative Work and Social Computing, CSCW '21.
7. Jaemarie Solyst, Tara Nkrumah, [Angela E.B. Stewart](#), Jina Lee, Erin Walker, Amy Ogan. Understanding instructors' cultivation of connectedness in K-12 online synchronous culturally responsive STEM and computing education. In review for Proceedings of the 24<sup>th</sup> ACM Conference on Computer-Supported Cooperative Work and Social Computing, CSCW '21.

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Journal  
Articles &  
Conference  
Publications  
(Full Paper) –  
Peer  
Reviewed

8. Samuel Pugh, Shree Krishna Subburaj, Arjun Ramesh Rao, [Angela E.B. Stewart](#), Jessica Andrews-Todd, and Sidney K. D'Mello. Say what? Automatic modeling of collaborative problem solving skills from student speech in the wild. Proceedings of the Fourteenth International Conference on Educational Data Mining, EDM '21. (AR<sup>1</sup> = 22%)
9. [Angela E.B. Stewart](#), Zachary Keirn, and Sidney K. D'Mello. Multimodal modeling of collaborative problem solving in triads. User Modeling and User Adapted Interaction, 2021. (IF<sup>2</sup> = 4.68)
10. Shree Krishna Subburaj, [Angela E.B. Stewart](#), Arjun Ramesh Rao, Sidney K. D'Mello. Multimodal, multiparty modeling of collaborative problem solving performance. In Proceedings of the 2020 International Conference on Multimodal Interaction, ICMI ' 20. (AR = 41%)
11. [Angela E.B. Stewart](#), Mary J. Amon, Nicholas D. Duran, and Sidney K. D'Mello. Beyond team makeup: Diversity in teams predicts valued outcomes in computer-mediated collaborations. In Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems, CHI '20. (AR = 24%)
12. Hana Vrzakova, Mary J. Amon, [Angela E.B. Stewart](#), Nicholas D. Duran, and Sidney K. D'Mello. Focused or stuck together: Multimodal patterns reveal triads' performance in collaborative problem solving. In Proceedings of the 10<sup>th</sup>

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<sup>1</sup> When applicable, acceptance rate (AR) of the conference is indicated.

<sup>2</sup> When applicable, Impact Factor (IF) of the journal is indicated.

International Conference on Learning Analytics and Knowledge, LAK '20. (Best Paper, AR = 31%)

13. [Angela E.B. Stewart](#), Hana Vrzakova, Chen Sun, Jade Yonehiro, Cathlyn A. Stone, Nicholas D. Duran, Valerie J. Shute, and Sidney K. D'Mello. I say, you say, we say: Using spoken language to model socio-cognitive processes during computer-supported collaborative problem solving. In Proceedings of the 22<sup>nd</sup> ACM Conference on Computer-Supported Cooperative Work and Social Computing, CSCW '19. (AR = 31%)
14. Lucca Eloy, [Angela E.B. Stewart](#), Mary J. Amon, Caroline Reinhardt, Amanda Michaels, Chen Sun, Valerie J. Shute, Nicholas D. Duran, and Sidney K. D'Mello. Modeling team-level multimodal dynamics during multiparty collaboration. In Proceedings of the 21<sup>st</sup> ACM International Conference on Multimodal Interaction, ICMI '19. (Best Student Paper, AR = 22%)
15. Hana Vrzakova, Mary J. Amon, [Angela E. B. Stewart](#), and Sidney K. D'Mello. Dynamics of visual attention in multiparty collaborative problem solving using multidimensional recurrence quantification analysis. In Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems, CHI '19. (AR = 24%)
16. Chen Sun, Valerie J Shute, [Angela E.B. Stewart](#), Jade Yonehiro, Nicholas D. Duran, and Sidney K. D'Mello. A generalized competency model of collaborative problem solving. Computers and Education 2019. (IF = 5.30)
17. [Angela E.B. Stewart](#), Zachary A. Keirn, and Sidney K. D'Mello. Multimodal modeling of coordination and coregulation patterns in speech rate during triadic collaborative problem solving. In Proceedings of the 20<sup>th</sup> ACM International Conference on Multimodal Interaction, ICMI '18. (AR = 15.4%)
18. [Angela E.B. Stewart](#) and Sidney K. D'Mello. Connecting the dots towards collaborative AIED: Linking group makeup to process to learning. In Proceedings of the 19<sup>th</sup> International Conference on Artificial Intelligence in Education, AIED '18. (AR = 25%)
19. [Angela E.B. Stewart](#), Nigel Bosch, and Sidney K. D'Mello. Generalizability of face-based mind wandering detection across task contexts. In Proceedings of the 10<sup>th</sup> International Conference on Educational Data Mining, EDM '17. (Best Student Paper, AR = 25%)
20. [Angela E.B. Stewart](#), Nigel Bosch, Huili Chen, Patrick Donnelly, and Sidney K. D'Mello. Face forward: Detecting mind wandering from video during narrative film comprehension. In Proceedings of the 18<sup>th</sup> International Conference on Artificial Intelligence in Education, AIED '17. (AR = 30%)

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Conference Publications (Short Paper, Extended Abstract) – Peer Reviewed

21. [Angela E.B. Stewart](#), Jaemarie Solyst, Amanda Buddemeyer, Leshell Hatley, Sharon Henderson-Singer, Kimberly Scott, Erin Walker and Amy Ogan. Explaining engagement: Learner behaviors in a virtual coding camp. In press for Proceedings of the 22<sup>nd</sup> International Conference on Artificial Intelligence in Education.
22. Stephen Hutt, Jessica Hardey, Robert Bixler, [Angela E.B. Stewart](#), Evan Risko, and Sidney K. DMello. Gaze-based detection of mind wandering during lecture viewing. In Proceedings of the 10<sup>th</sup> International Conference on Educational Data Mining, EDM '17. (AR = 42%)
23. [Angela E.B. Stewart](#), Nigel Bosch, Huili Chen, Patrick J. Donnelly, and Sidney K. D'Mello. Where's your mind at? Video-based mind wandering detection during

film viewing. In Proceedings of the 2016 Conference on User Modeling Adaptation and Personalization, UMAP '16. (AR = 41%)

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Workshop Proceedings - Peer Reviewed	24. Sidney K. D’Mello, <a href="#">Angela E.B. Stewart</a> , Mary J. Amon, Chen Sun, Nicholas D. Duran, Valerie J. Shute. Towards dynamic intelligent support for collaborative problem solving. Approaches and Challenges in Team Tutoring Workshop at the 20th International Conference on Artificial Intelligence in Education, AIED '19.
Talks	Invited Speaker, University of Pittsburgh School of Computing and Information, Fall 2021  Invite Spotlight Speaker, Michigan AI Symposium, Fall 2021  Invited Panelist, Blacks in Technology YP CoNext@ASU, Spring 2021  Human-Computer Interaction Institute Seminar Series, Carnegie Mellon University, Fall 2020  Invited Talk, MIRRORLab Student Speaker Series, Summer 2020  Department of Computer Science Colloquia, University of Colorado Boulder, Fall 2019
Posters	<a href="#">Angela E.B. Stewart</a> , Hana Vrzakova, Chen Sun, Jade Yonehiro, Cathlyn Adele Stone, Nicholas D. Duran, Valerie J. Shute, and Sidney K. D’Mello. I say, you say, we say: Using language to model shared knowledge construction during collaborative problem solving. Computing Research Association Grad Cohort for Underrepresented Minorities and People with Disabilities, CRA-URMD '19.  <a href="#">Angela E.B. Stewart</a> , Nigel Bosch, and Sidney K. D’Mello. Detecting mind wandering during film viewing. Tapia Celebration of Diversity in Computing, Tapia '17.  <a href="#">Angela E.B. Stewart</a> , Nigel Bosch, Huili Chen, Patrick J. Donnelly, and Sidney K. D’Mello. Video-based mind wandering detection during film viewing. Computing Research Association Grad Cohort for Women, CRA-W '17.
Teaching Experience	Nonlinear Dynamics: Mathematical and Computational Approaches, Teaching Assistant, Sante Fe Institute, Spring 2019  Nonlinear Dynamics: Mathematical and Computational Approaches, Course Instructor, Sante Fe Institute, Fall 2018  Data Structures, Teaching Assistant and Lab Section Primary Instructor, University of Colorado Boulder, Fall 2017

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Research Funding	Deans Graduate Assistantship, University of Colorado Boulder, 2017 \$21,800
	Computer Science Departmental Fellowship, University of Colorado Boulder, 2017 \$3,000
	Dean's Fellowship, University of Notre Dame, 2015 \$95,400
	GEM Fellowship, National GEM Consortium, 2015 \$40,000
Travel Funding	SIGCHI Student Travel Grant, ACM - Special Interest Group on Human-Computer Interaction, 2019 \$1,800
	Departmental Conference Scholarship, University of Colorado Boulder Computer Science Department, 2019 \$1,200
	CRA Grad Cohort Workshop for URMD, Computing Research Association, 2019 \$1,000
	Conference Funding, AIED Society, 2018 \$1,500
	Conference Funding, AIED Society and EDM Society, 2017 \$1,500
	CRA-W Grad Cohort Workshop, Computing Research Association, 2017 \$1,000
	Tapia Celebration of Diversity in Computing Scholarship, National Science Foundation, 2017 \$1,000
	CRA-W Grad Cohort Workshop, Computing Research Association, 2016 \$1,000
	Tapia Celebration of Diversity in Computing Scholarship, IBM, 2016 \$1,000
	Conference Organization
Equitable Learning Analytics Panel Organizer, Learning Analytics and Knowledge, 2021	
Co-Organized with Caitlin Mills and Laura Allen	

Workshop Chair, Learning Analytics and Knowledge, 2021  
Co-Chair with Caitlin Mills and Paul Prinsloo

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Academic  
Service

Program Committee, Learning Technologies for Equality, Diversity, and Inclusion  
Workshop (LearnTec4EDI), 2021

Program Committee, Learning Analytics and Knowledge, 2021

Program Committee, Learning at Scale, 2021

Society for Learning Analytics Research Diversity and Inclusion Working Group, 2020 -  
2021

Program Committee, Artificial Intelligence in Education (AIED), 2021, 2020

Program Committee, Educational Data Mining (EDM), 2020, 2017

Program Committee, International Conference on Multimodal Interaction (ICMI),  
2020, 2019

PhD Student Recruitment Committee, University of Colorado Boulder, 2020, 2019

Faculty Search Panel of PhD Students, University of Colorado Boulder, 2019

Local Committee, International Conference on Multimodal Interaction, 2018

PhD Student Recruiter, Colorado Advantage Graduate School Preview Weekend,  
2018

Reviewer: Computer-Supported Cooperative Work and Social Computing (CSCW),  
Educational Data Mining (EDM), Artificial Intelligence in Education (AIED),  
Transactions on Learning Technologies, British Journal of Educational Technology,  
Computers and Education, Journal of Learning Analytics

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External  
Service

Board of Directors, Aucitat, 2018 – 2021

Science Fair Judge, Colorado STEM Academy, 2019, 2020

PhD Student Facilitator, University of Colorado Boulder Girls Who Code, 2019

AI & Machine Learning Curriculum Lead, The Coding School, 2018 - 2019

Computer Science Outreach Instructor & Organizer, University of Notre Dame, 2016  
– 2017

Co-Organized with Tijana Milenković

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Core Curriculum Developer, The Coding School, 2016 – 2017

Black Graduate Student Association Treasurer, University of Notre Dame, 2016 – 2017

CS Workshop Organizer, University of Notre Dame Expanding Your Horizons, 2018  
Co-Organized with Tijana Milenković

Science Fair Judge, Northern Indiana Regional Science Engineering Fair, 2016

Web Development Instructor, Saint Joseph Public Library, 2015 - 2016

Pre-College Initiatives Chair, Auburn University NSBE, 2014 – 2015

STEM Tutor, Auburn University NSBE, 2014 – 2015

A Walk for Education Volunteer, Auburn University NSBE, 2014

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**Professional Societies**

International Artificial Intelligence in Education Society  
Association for Computing Machinery  
Association for Computing Machinery - SIG-CHI  
Association for Computing Machinery – Women

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**Graduate Student Mentorship**

Demi Lee, Girls Attitudes towards Co-Creation of a Social Robot, 2021  
Arjun Rao, Multimodal Machine Learning for Collaborative Problem Solving, 2020  
Krishna Subburaj, Multimodal Machine Learning for Collaborative Problem Solving, 2020  
Ashwin Vasani, Multimodal Machine Learning for Collaborative Problem Solving, 2019  
Lucca Eloy, Nonlinear Dynamics for Collaborative Problem Solving, 2018 - 2019

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**Under-graduate Student Mentorship**

Nolani Kennedy-Smith, Social Robots as Pets, 2021  
Jennifer Nwogu, Co-Design of Social Robots for Middle School Girls of Color, 2021  
Stephanie Eristoff, Teacher Agency in Classroom Discussions & Behavioral Engagement in Middle School Girls Learning Computer Science, 2021  
Vaishnavi Gorantla, Teacher Agency in Classroom Discussions & Behavioral Engagement in Middle School Girls Learning Computer Science, 2021  
Jina Lee, Co-Design of Social Robots for Middle School Girls of Color, 2020 – 2021  
Daniel Noh, Scaffolding Teachers Reflection using Discussion Data Visualization, 2020 - 2021

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Cooper Steputis, Multimodal Modeling for Collaborative Problem Solving, 2019 - 2020

Erin Clark, Multimodal Modeling for Collaborative Problem Solving, 2019 - 2020

Caroline Reinhardt, Multimodal Modeling for Collaborative Problem Solving, 2018 - 2020

David Blair, Multimodal Modeling for Collaborative Problem Solving, 2017 - 2020

Samantha Scaglione, Multimodal Modeling for Collaborative Problem Solving, 2017

Mae Raab, Multimodal Modeling for Collaborative Problem Solving, 2016

Eugene Choi, Multimodal Modeling for Collaborative Problem Solving, 2016

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**Industry  
Experience**

User Experience Design Intern, Lexmark International, 2016  
Designed aspects of a user-facing device management portal, including a scoped and global search mechanic.

Firmware Engineering Intern, Lexmark International, 2015  
Designed and implemented test cases for firmware's conformance to network protocols.

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