CURRICULUM VITAE

Alexandria K. Vail

avail@cs.cmu.edu
alexandriakvail.com

5000 Forbes Avenue
Human-Computer Interaction Institute
Pittsburgh, PA 15213-3815

Education

2016 – **Ph.D.**, Human-Computer Interaction
Carnegie Mellon University
Advisor: Dr. Louis-Philippe Morency

2015 – 2016 Ph.D. Student, Computer Science
North Carolina State University
Advisors: Dr. Kristy Boyer, Dr. James Lester

2011 – 2015 **B.S.**, Computer Science, **B.S.**, Mathematics, *magna cum laude*, 3.6/4.0
North Carolina State University

Minor concentrations: Cognitive Science, Physics
Phi Kappa Phi, Sigma Pi Sigma
University Honors, Computer Science Honors, Mathematics Honors

Research Experience

2016 – **Graduate Research Assistant**, Human-Computer Interaction Institute
Carnegie Mellon University
The MultiComp Lab

2015 – 2016 **Graduate Research Assistant**, Center for Educational Informatics
North Carolina State University
The LearnDialogue Group, The Intellimedia Group

2013 – 2015 **Undergraduate Researcher**, Center for Educational Informatics
North Carolina State University
The LearnDialogue Group

Research Interests

AFFECTIVE COMPUTING, ARTIFICIAL INTELLIGENCE, HEALTH BEHAVIOR INFORMATICS, LEARNING TECHNOLOGIES

- AFFECTIVE COMPUTING: affective interfaces, cognitive-affective models, emotion and affect recognition, social signal processing
- ARTIFICIAL INTELLIGENCE: user modeling, multimodal behavior analysis
- HEALTH BEHAVIOR INFORMATICS: AI & healthcare, diagnostic support tools, technology in psychiatry
- LEARNING TECHNOLOGIES: AI & education, intelligent tutoring systems, tutorial interaction

Honors and Awards

- Outstanding Paper, Twenty-Fourth International Conference on User Modeling, Adaptation, and Personalization, 2016.
- Exemplary Paper, Ninth International Conference on Educational Data Mining, 2016.
- Best Paper Award, Twenty-Third International Conference on User Modeling, Adaptation, and Personalization, 2015.
- National Science Foundation Graduate Research Fellowship, 2015.
- North Carolina State University Department of Computer Science Senior Award for Scholarly Achievement, 2015.
- Generation Google Scholarship, 2014.
- North Carolina Society of Information Management Scholarship, 2013, 2014.
- Howard A. Petrea Endowed Scholarship in Mathematics, 2013.

Publications

2018

1. A. Vail. E. Liebson, J. Baker, L.-P. Morency. Toward Objective, Multifaceted Characterization of Psychotic Disorders: Lexical, Structural, and Disfluency Markers of Spoken Language. To appear in *Proceedings of the Twentieth International Conference on Multimodal Interaction (ICMI 2018)*. pp. 170-178, Boulder, Colorado, 2018. (long paper, acceptance rate: 18%)

2017

2. **A. Vail**, T. Baltrušaitis, L. Pennant, E. Liebson, J. Baker, L.-P. Morency. Visual Attention in Schizophrenia: Eye Contact and Gaze Aversion during Clinical Interactions. *Proceedings of the Seventh International Conference on Affective Computing and Intelligent Interaction (ACII 2017)*, pp. 490-497, San Antonio, Texas, 2017. (long paper, acceptance rate: 27.6%)

2016

3. **A. Vail**, J. Grafsgaard, K. Boyer, E. Wiebe, and J. Lester. Gender Differences in Facial Expressions of Affect During Learning. *Proceedings of the Twenty-Fourth International Conference on User Modeling, Adaptation, and Personalization (UMAP 2016)*, pp. 65–73, Halifax, Canada, 2016. (long paper, acceptance rate: 23.9%)
   Outstanding Paper
4. **A. Vail**, J. Wiggins, J. Grafsgaard, K. Boyer, E. Wiebe, and J. Lester. The Affective Impact of Tutor Questions: Predicting Frustration and Engagement. *Proceedings of the Ninth International Conference on Educational Data Mining (EDM 2016)*, pp. 247–254, Raleigh, North Carolina, 2016. (long paper, acceptance rate: 27.5%)
   Exemplary Paper
5. W. Min, J. Wiggins, L. Pezzullo, **A. Vail**, K. Boyer, B. Mott, M. Frankosky, E. Wiebe, and J. Lester. Predicting Dialogue Acts for Intelligent Virtual Agents with Multimodal Student Interaction Data. *Proceedings of the Ninth International Conference on Educational Data Mining (EDM 2016)*, pp. 454–459, Raleigh, North Carolina, 2016. (short paper, acceptance rate: 52%)
6. **A. Vail**, J. Grafsgaard, K. Boyer, E. Wiebe, and J. Lester. Predicting Learning from Student Affective Response to Tutor Questions. *Proceedings of the Thirteenth International Conference on Intelligent Tutoring Systems (ITS 2016)*, pp. 154–164, Zagreb, Croatia, 2016. (long paper, acceptance rate: 15%)

2015

7. **A. Vail**, K. Boyer, E. Wiebe, and J. Lester. The Mars and Venus Effect: The Influence of User Gender on the Effectiveness of Adaptive Task Support. *Proceedings of the Twenty-Third International Conference on User*

Modeling, Adaptation, and Personalization (UMAP 2015), pp. 216–227, Dublin, Ireland, 2015. (long paper, acceptance rate: 28%)

Best Paper Award

2014

8. **A. Vail**, J. Grafsgaard, J. Wiggins, J. Lester, and K. Boyer. Predicting Learning and Engagement in Tutorial Dialogue: A Personality-Based Model. *Proceedings of the Sixteenth ACM International Conference on Multimodal Interaction (ICMI 2014)*, pp. 255–262, Istanbul, Turkey, 2014. (long paper, acceptance rate: 18%)
9. J. Grafsgaard, J. Wiggins, **A. Vail**, K. Boyer, E. Wiebe, and J. Lester. The Additive Value of Multimodal Features for Predicting Engagement, Frustration, and Learning During Tutoring. *Proceedings of the Sixteenth ACM International Conference on Multimodal Interaction (ICMI 2014)*, pp. 42–49, Istanbul, Turkey, 2014. (long paper, acceptance rate: 18%)

   Nominated for Outstanding Paper Award
10. **A. Vail** and K. Boyer. Adapting to Personality Over Time: Examining the Effectiveness of Dialogue Policy Progressions in Task-Oriented Interaction. *Proceedings of the Fifteenth Annual Meeting of the Special Interest Group on Discourse and Dialogue (SIGDIAL 2014)*, pp. 41–50, Philadelphia, Pennsylvania, 2014. (long paper, acceptance rate: 30%)
11. **A. Vail** and K. Boyer. Identifying Effective Moves in Tutoring: On the Refinement of Dialogue Act Annotation Schemes. *Proceedings of the Twelfth International Conference on Intelligent Tutoring Systems (ITS 2014)*, pp. 199–209, Honolulu, Hawaii, 2014. (long paper, acceptance rate: 17.5%)

Teaching Experience

2013 – 2014 **Teaching Assistant**, North Carolina State University
Department of Computer Science

Fall 2013	CSC 226: Discrete Mathematics for Computer Scientists Dr. Tiffany Barnes ~250 students
Spring 2014	CSC 230: C and Software Tools Dr. Sarah Heckman ~120 students

2012 – 2013 **Mathematics & Physics Tutor**, North Carolina State University
College Reading & Learning Association: Level II Advanced Tutor Certification

Relevant Coursework

Graduate Coursework

Spoken Dialogue Systems
Computational Applied Logic
Software Engineering
Numerical Analysis I
Reasoning Under Uncertainty
Process and Theory in HCI
Computer Science Perspectives in HCI
Social Perspectives in HCI
Design Perspectives in HCI
Cognitive Science Perspectives in HCI
Artificial Intelligence I, II
Combinatorics I
Graph Theory
Automated Learning and Data Analysis
Human Communication and Multimodal Computation
Advanced Multimodal Machine Learning
Computer Vision

Undergraduate Coursework

Computer Organization and Assembly Language for Computer Scientists
C and Software Tools
Concepts and Facilities of Operating Systems for Computer Scientists
Data Structures
Automata, Grammars, and Computability
Ethics in Computing
Introduction to Artificial Intelligence

Technology & American Culture
The Creative Process in Science
Self, Schooling, & Social Order
Introduction to College Tutoring

Foundations of Advanced Mathematics
Calculus I, II, III
Applied Differential Equations I
Introduction to Linear Algebra
Introduction to Modern Algebra for Mathematicians
Introduction to Combinatorics
Probability and Statistics for Engineers
Mathematical Analysis I, II
Mathematics of Scientific Computing
Symbolic Logic

Introduction to Language & Linguistics
Introduction to Cognitive Science
Introduction to Psychology
Cognitive Processes

Professional Membership

- Association for Computing Machinery (ACM).
- Association for the Advancement of Affective Computing (AAAC).
- International Artificial Intelligence in Education Society (IAIED).
- Institute of Electrical and Electronics Engineers (IEEE).
- International Educational Data Mining Society (IEDMS).
- Students & Technology in Academia, Research, and Service (STARS) Student Leadership Corps.
- Mensa International.