

# Jennifer K. Olsen

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## Education

Carnegie Mellon University, Pittsburgh, Pennsylvania, August 2012-Present  
Ph.D. student in the Human-Computer Interaction Institute

Carnegie Mellon University, Pittsburgh, Pennsylvania, May 2015  
Master of Science in Human-Computer Interaction

Carnegie Mellon University, Pittsburgh, Pennsylvania, August 2006-May 2010  
B.S. in Cognitive Science and Human-Computer Interaction  
Minor in Computer Science

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## Awards and Honors

Siebel Scholar, Sept. 2016-Present

Program in Interdisciplinary Educational Research (PIER) Fellowship,  
Aug. 2012-July 2016

Conference Travel Grant, AIED & EDM, National Science Foundation Grant, June 2015

Conference Travel Grant, CSCL, National Science Foundation Grant, June 2015

Graduate of Carnegie Mellon University with University and College Honors, May 2010

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## Refereed Journal Article

**Olsen, J.K.**, Aleven, V., & Rummel, N. (in review). Statistically modeling individual students' learning over successive collaborative practice opportunities. Submitted to the *Journal of Educational Measurement*.

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## Book Chapter

**Olsen, J.K.**, Aleven, V., & Rummel, N. (in press). Exploring dual eye tracking as a tool to assess collaboration. To appear in A. von Davier et al. (Eds.), *Innovative Assessment of Collaboration*.

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## Refereed Full and Short Conference Papers

**Olsen, J.K.**, Rummel, N., & Aleven, V. (2016). Investigating effects of embedding collaboration in an intelligent tutoring system for elementary school students. In the *International Conference of the Learning Sciences*.

Gerritsen, D., Tasse, D., **Olsen, J.K.**, Vlahovic, T.A., Gulotta, R., Odom, W., Wiese, J., Zimmerman, J. (2016). Mailing archived emails as postcards: Probing the value of virtual collections. In the Proceedings of the *34th International Conference on Human Factors in Computing Systems (CHI)*.

**Olsen, J.K.**, Aleven, V., & Rummel, N. (2015). Predicting student performance in a collaborative learning environment. In O. C. Santos et al. (Eds.), *Proceedings of the 8th International Conference on Educational Data Mining*, (p. 211-217). Worcester, MA: Educational Data Mining Society.

**Olsen, J.K.**, Aleven, V., & Rummel, N. (2015). Toward combining individual and collaborative learning within an intelligent tutoring system. In C. Conati, N. Heffernan, A. Mitrovic, & M. F. Verdejo (Eds.), *Doctoral Consortium Paper in the Proceedings of*

the *17th international conference on AI in education* (pp. 848-851). New York: Springer International Publishing.

Wiese, E., Patel, R., **Olsen, J.K.**, & Koedinger, K. (2015). Transitivity is not obvious: Probing prerequisites of learning. In D. C. Noelle, R. Dale, A. S. Warlaumont, J. Yoshimi, T. Matlock, C. D. Jennings, & P. P. Maglio (Eds.), *Proceedings of the 37th Annual Conference of the Cog. Sci. Society*, (pp. 2655-2660). Austin, TX: Cognitive Science Society.

Belenky, D.M., Ringenber, M., **Olsen, J.K.**, Alevan, V., & Rummel, N. (2014). Using dual eye-tracking to evaluate students' collaboration with an intelligent tutoring system for elementary-level fractions. In P. Bello, M. Guarini, M. McShane, & B. Scassellati (Eds.), *Proceedings of the 36th Annual Conference of the Cognitive Science Society*. Austin, TX: Cognitive Science Society.

**Olsen, J. K.**, Belenky, D. M., Alevan, A., & Rummel, N. (2014). Using an intelligent tutoring system to support collaborative as well as individual learning. In S. Trausan-Matu, K. E. Boyer, M. Crosby, & K. Panourgia (Eds), *Proceedings of the 12th International Conference on Intelligent Tutoring Systems*, (pp. 134-143). Berlin, Heidelberg: Springer.

**Olsen, J. K.**, Belenky, D. M., Alevan, A., Rummel, N., Sewall, J., & Ringenber, M. (2014). Authoring tools for collaborative intelligent tutoring system environments. In S. Trausan-Matu, K. E. Boyer, M. Crosby, & K. Panourgia (Eds), *Proceedings of the 12th International Conference on Intelligent Tutoring Systems*, (pp. 523-528). Berlin, Heidelberg: Springer.

**Olsen, J. K.**, Belenky, D. M., Alevan, V., Rummel (2013). Intelligent tutoring systems for collaborative learning: Enhancements to authoring tools. In H. C. Lane, K. Yacef, J. Mostow, & P. Pavlik (Eds.), *Doctoral Consortium Paper in the Proceedings of the 16th International Conference on Artificial Intelligence in Education AIED 2013*, (pp. 900-903). Berlin, Heidelberg: Springer. doi: 10.1007/978-3-642-39112-5\_141.

Mazurek, M., Arsenault, J.P., Bresee, J., Gupta, N., Ion, I., Johns, C., Lee, D., Liang, Y., **Olsen, J.**, Salmon, B., Shay, R., Vaniea, K., Bauer, L., Cranor, L.F., Ganger, G.R., & Reiter, M.K. (2010, April). Access control for home data sharing: Attitudes, needs and practices. In *Proceedings of the 28th international conference on Human factors in computing systems* (pp. 645-654). ACM.

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## Refereed Workshops and Posters

Hartmann, C., **Olsen, J.K.**, Rummel, N., & Alevan, V. (2016). Comparing Two Approaches to Analyzing Collaborative Process Data From Learning with an ITS. *Proceedings 5th Workshop on Intelligent Support for Learning in Groups at the 13th International Conference on Intelligent Tutoring Systems*.

**Olsen, J.K.**, Alevan, V., & Rummel, N. (2016). Enhancing student modeling for collaborative intelligent tutoring systems. In *the 13th International Conference on Intelligent Tutoring Systems*.

**Olsen, J.K.**, Ringenber, M., Alevan, V., & Rummel, N. (2015). Dual eye tracking as a tool to assess collaboration. In *Proceedings of the 4th Workshop on Intelligent Support for Learning in Groups at the 17th International Conference on Artificial Intelligence in Education*, (p 25-30). Madrid, Spain.

**Olsen, J.K.**, Alevan, V., & Rummel, N. (2015). Adapting collaboration dialogue in response to intelligent tutoring system feedback. In C. Conati, N. Heffernan, A. Mitrovic,

- & M. F. Verdejo (Eds.), *Proceedings of the 17th international conference on AI in education*, (pp. 748-751). New York: Springer International Publishing.
- Olsen, J.K.** (2015). Using complimentary strengths of individual and collaborative learning within an intelligent tutoring system. Presented at the Doctoral Consortium in conjunction with the *11th International Conference on Computer Supported Collaborative Learning*, (951-952). Gothenberg, Sweden.
- Olsen, J.K.**, Rummel, N., & Aleven, V. (2015). Finding productive talk around errors in intelligent tutoring systems. In O. Lindwall et al. (Eds.), *Proceedings of the 11th International Conference on Computer Supported Collaborative Learning*, (821-822). Gothenberg, Sweden.
- Olsen, J. K.**, Mazziotti, C., Aleven, V., & Rummel, N. (2015). Assessing collaboration dialogues of students using an intelligent tutoring system for fractions. Symposium Paper Presented at the *2015 EARLI Meeting*. Limassol, Cyprus.
- Belenky, D.M., Ringenberg, M., **Olsen, J.K.**, Aleven, V., & Rummel, N. (2014). Integrating dual eye-tracking and Intelligent Tutoring System Logs: A novel method to study collaboration. Presented at the *2014 EARLI SIG 6 (Instructional Design) & 7 (Learning and Instruction) Meeting*. Rotterdam, The Netherlands.
- Olsen, J. K.**, Belenky, D. M., Aleven, V., & Rummel, N. (2014). The use of collaborative technology with elementary school students. Poster presented at the *Grace Hopper Celebration*. Phoenix, AZ.
- Olsen, J. K.**, Belenky, D. M., Aleven, V., & Rummel, N. (2014). Collaboration on Procedural Problems May Support Conceptual Knowledge More than You May Think. Proceedings 3rd Workshop on Intelligent Support for Learning in Groups at the *12th International Conference on Intelligent Tutoring Systems*.
- Olsen, J. K.**, Belenky, D. M., Aleven, V., Rummel, N., Sewall, J., & Ringenberg, M. (2013). Authoring collaborative intelligent tutoring systems. In R. Kumar & J. Kim (Eds.), *Proceedings 2nd Workshop on Intelligent Support for Learning in Groups at the 16th International Conference on Artificial Intelligence in Education* (pp. 1-10). Memphis, TN.
- Belenky, D.M., Ringenberg, M., **Olsen, J.K.**, Aleven, V., & Rummel, N. (2013). Using Dual Eye-Tracking Measures to Differentiate Between Collaboration on Procedural and Conceptual Learning Activities. In *Proceedings of the workshop "DUET 2013: Dual Eye Tracking in CSCL"*, held during the CSCL 2013 conference. Madison, WI. [http://dualeyetracking.org/duet2013/DUET\\_2013.html](http://dualeyetracking.org/duet2013/DUET_2013.html).
- Booth, J.L., & **Olsen, J.K.** (2009, April). Encoding of equation features relates to conceptual and procedural knowledge of algebra. Poster presented at the meeting of the Society for Research in Child Development, Denver, CO.

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**Invited Talks  
and  
Other Work**

**Invited Speaker**, June 2015

Institute of Educational Research, Ruhr-Universität Bochum, Bochum, Germany

**Olsen, J.K.** (2010, unpublished). Does color really affect cognition? Senior Honors Thesis at the Carnegie Mellon University, Pittsburgh, PA.

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## Research Experience

**Collaborative and Individual Learning with an Intelligent Tutoring System for Fractions**, August 2012-Present

Carnegie Mellon Human-Computer Interaction Institute

**Cognitive Tutors to Support Accountable Talk: The Role of Feedback Mechanism on Students' Collaborative Success**, December 2013-Present

Carnegie Mellon Human-Computer Interaction Institute

**The Perceived Value of Personal Email Archives**,

November 2012-September 2013

Carnegie Mellon Human-Computer Interaction Institute

**Research on the affects of color on cognitive processes, Senior Honors Thesis**, August 2009-May 2010

Carnegie Mellon Psychology Department

**Developing a prototype interface for a kinetic typography engine, Research Assistant**, January 2010-May 2010

Carnegie Mellon Human-Computer Interaction Institute

**Research around privacy concerns with data sharing across devices, Research Assistant**, January 2009-May 2009

Carnegie Mellon CUPS Lab, CMU Usable Privacy and Security Lab

**Research around mathematical solution techniques and errors with children and chemistry errors with college students, Research Assistant**,

May 2007-September 2008

Carnegie Mellon Psychology Department

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## Teaching Experience

Teaching Assistant in Programming Usable Interfaces, Fall 2015

Undergraduate and graduate level

Human-Computer Interaction Institute, Carnegie Mellon University, Pittsburgh, PA, USA

Classroom Observer and Assistant, January 2015-May 2015

3rd - 5th grade classrooms

Propel Braddock Hills Elementary School

Teaching Assistant in User Centered Research and Evaluation, Fall 2014

Undergraduate and graduate level

Human-Computer Interaction Institute, Carnegie Mellon University, Pittsburgh, PA, USA

Mentor at the PSLC summer school in the CTAT and Example-tracing Tutors track, Summers 2014, 2015, 2016

Undergraduate and graduate level

LearnLab, Carnegie Mellon University, Pittsburgh, PA, USA

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## Professional Experience

**Developer**, July 2010-June 2012

The Vanguard Group, Malvern, Pennsylvania

Produce and develop design solutions for the pension administrative system.

**Information Architect Internship**, May 2009-August 2009

Verizon, Irving, Texas

Design and develop wireframes for internal sites based on client needs.

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**Service**

Co-Ombudsman, PhD Student Rep, July 2014-Present

**Experience**

Co-Organizer for the 5th Workshop on Intelligent Support for Learning in Groups, June 2016

Program Committee Member for the Workshop on Intelligent Support for Learning in Groups, March 2015-June 2015

Student Volunteer, Educational Data Mining, June 2015

PIER Edbag Coordinator, July 2014-July 2015

PIER Summer Stats Course Organizer, Summer 2014

Curriculum Committee Student Rep, October 2012-May 2013

Reviewer: International Conference on Human Factors in Computing Systems (CHI), International Conference on the Learning Sciences (ICLS), International Conference on Computer Supported Collaborative Learning (CSCL), Journal of Educational Measurement

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**Volunteer**

Big Brothers Big Sisters Community Big, November 2012-Present

**Experience**

Category Judge for the Pittsburgh Regional Science & Engineering Fair, 2015-Present

Carnegie Mellon Women@SCS PhD Sisters Mentor, September 2015-Present

Carnegie Mellon Women@SCS Sisters Mentor, November 2012-May 2014