

# Daniel J. Davis

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## EDUCATION

### Delft University of Technology

Ph.D. in Computer Science, Learner Modeling and Learning Analytics

### Delft, the Netherlands

Expected July 2019

### Georgetown University

M.A. in Communication, Culture & Technology  
Education Technology Concentration

### Washington, D.C.

Graduated May 2015

### Assumption College

B.A. English, Concentration in Writing & Mass Communications  
Minor in Graphic Design

### Worcester, Massachusetts

Graduated May 2013  
with honors: cum laude

## RESEARCH INTERESTS

My research uses and advances user modeling techniques in the context of open online education at scale in developing a learner modeling-focused approach to learning analytics. I develop methods to gain a deeper understanding about how the design of online learning environments affects learner success and engagement, often by implementing and testing instructional interventions at scale.

## PUBLICATIONS

- Zhao, Y., **Davis**, D., Chen, G., Lofi, C., Hauff, C., Houben, G.J. (2017) Certificate Achievement Unlocked: Exploring MOOC Learners' Behaviour Before & After Passing. In *Proceedings of the 25th Conference on User Modeling, Adaptation and Personalization*, (UMAP) '17
- Pardos, Z., Tang, S., **Davis**, D., Le, C.V. (2017) Enabling Real-Time Adaptivity in MOOCs with a Personalized Next-Step Recommendation Framework. In *Proceedings of the Fourth Annual ACM Conference on Learning at Scale*, L@S '17.
- Davis**, D., Jivet, I., Kizilcec, R.F., Chen, G., Hauff, C., Houben, G.J. (2017) Follow the Successful Crowd: Raising MOOC Completion Rates through Social Comparison at Scale. In *Proceedings of 7th International Conference on Learning Analytics and Knowledge*, LAK '17.
- Chen, G., **Davis**, D., Krause, M., Aivaloglou, E., Hauff, C., Houben, G.J. (2017) Buying Time: Enabling Learners to become Earners with a Real-World Paid Task Recommender System. In *Proceedings of 7th International Conference on Learning Analytics and Knowledge*, LAK '17.
- Chen, G., **Davis**, D., Krause, M., Aivaloglou, E., Hauff, C., Houben, G.J. (2016) Can Learners be Earners? Investigating a Design to Enable MOOC learners to Apply their Skills and Earn Money in an Online Market Place. In *IEEE Transactions on Learning Technologies* (TLT).
- Davis**, D., Chen, G., van der Zee, T., Hauff, C., Houben, G.J. (2016) Retrieval Practice and Study Planning in MOOCs: Exploring Classroom-Based Self-Regulated Learning Strategies at Scale. In *Proceedings of the 11th European Conference on Technology-Enhanced Learning*, EC-TEL '16. **\*Best Student Paper Award**
- Davis**, D., Chen, G., Hauff, C., Houben, G.J. (2016) Gauging MOOC Learners' Adherence to the Designed Learning Path. In *Proceedings of the Ninth International Conference on Educational Data Mining*, EDM '16.
- Chen, G., **Davis**, D., Hauff, C., Houben, G.J. (2016) On the Impact of Personality in Massive Open Online Learning. In *Proceedings of the 24<sup>th</sup> Conference on User Modeling, Adaptation, and Personalization*, UMAP '16.
- Chen, G., **Davis**, D., Hauff, C., Houben, G.J. (2016) MOOC Learners in Social Web Platforms. In *Proceedings of the Eighth International ACM Web Science Conference*, WebSci '16.
- Davis**, D., Chen, G., Jivet, I., Hauff, C., Houben, G.J. (2016) Encouraging Metacognition & Self-Regulation in MOOCs through Increased Learner Feedback. In *the Sixth International Learning Analytics & Knowledge Conference*, LAK '16, Learning Analytics for Learners Workshop.
- Chen, G., **Davis**, D., Hauff, C., Houben, G.J. (2016) Learning Transfer: Does it take place in MOOCs?. In *Proceedings of the Third Annual ACM Conference on Learning at Scale*, L@S '16. **\*Best Paper Honorable Mention**
- van Staalduinen, J.P., **Davis**, D., Topolovec, S. (2016) Opening University Education to the World and Improving Education: Using MOOC-based Research as a Tool for Innovation. In *Proceedings of the 9th annual International Conference of Education, Research and Innovation*, ICERI 2016.
- Davis**, D., Chen, G., Hauff, C., Houben, G.J. (2015) Identifying Trigger Events in MOOCs. In *the Second GESIS Computational Social Science Winter Symposium*.

- Davis, D., Hanacek, J., Myers, A., Mulroney, S., Vovides, Y.** (2015) Capturing, Tracing, and Visualizing the Spread of Technology-Enhanced Instructional Strategies. In *Proceedings of the Seventh International Conference on Education and New Learning Technologies*, EDULEARN '15.
- Davis, D.** (2015) Mapping Student Activity Data to the Visual Display of Online Learning Environments. Georgetown University Master's Thesis. Defended May 2015.
- Davis, D.** (2015) The First Comprehensive MOOC Manifesto. In *Proceedings of the 15<sup>th</sup> STGlobal Conference on Science & Technology in Society*, STGlobal '15.
- Vovides, Y., Youmans, T., Arthur, P., **Davis, D.**, Ayo, E., Pongsajapan, R., McWilliams, M., Kruse, A., (2015) Examining Learners Cognitive Presence in MOOCs. In *the Fifth International Learning Analytics & Knowledge Conference*, LAK '15, Learning Analytics Review Workshop.
- Vovides, Y., **Davis, D.**, Kruse, A., Pongsajapan, R., Youmans, T., Maloney, E. J. (2014) GeorgetownX: Applying an Integrative Learning Analytics Design Approach. In *EDUCAUSE Annual Conference*, EDUCAUSE '14.

## PROFESSIONAL SERVICES

**Sub-Reviewer**, 18th International Conference on Artificial Intelligence in Education (AIED) 2017

**Program Committee Member**, European MOOC Stakeholders Summit (eMOOCs) Conference (2017)

**Program Committee Member**, LAK '17 Conference Workshop on FutureLearn data: what we currently have, what we are learning and how it is demonstrating learning in MOOCs (2017)

## INVITED TALKS

**LAK '17 Workshop** on Integrated Learning Analytics of MOOC Post-Course Development, on looking beyond the MOOC platform in the social web for insights about MOOC learners

**edX**, Adaptive & Personalized Learner Support Systems in the edX Platform (January 2017)

**Columbia University Teachers College**, Baker EDM Lab Learning Analytics Seminar: Exploring the Role of Learners' Cultural Background in MOOCs (January 2017)

**Massachusetts Institute of Technology (MIT)**, Office of Digital Learning, talk on raising MOOC completion rates through social comparison at scale (January 2017)

**TU Delft**, Christiaan Huygens Career College Panel, informing Bachelors and Masters students on the decision to pursue PhD research (December 2016)

**Harvard University**, HarvardX & VPAL, talk on analyzing learning pathways through MOOCs (August 2016)

**Worcester Polytechnic Institute (WPI)**, ASSISTments Lab, talk on experimentation with scalable, adaptive feedback in MOOCs (August 2016)

**Centre for Education & Learning: Innovation Room**, Erasmus University Rotterdam, the Netherlands; talk on Gauging MOOC Learners' Adherence to the Designed Learning Path (January 2016)

## WORKSHOPS ORGANIZED

Wang, Y., **Davis, D.**, Chen, G., Paquette, L. (March 2017) Integrated Learning Analytics of MOOC Post-Course Development Workshop. In *Proceedings of 7th International Conference on Learning Analytics and Knowledge*, LAK '17.

Hauff, C., **Davis, D.**, Chen, G., Aly, A. (November 2016) 15<sup>th</sup> International Dutch-Belgian Information Retrieval Workshop. TU Delft, the Netherlands

van der Zee, T., **Davis, D.**, Pouw, W. (January 2016) High quality PhD Research: Reproducibility, Credibility and Validity. Erasmus University Rotterdam, the Netherlands

## GRANTS & PROJECTS

**Successful transition for secondary to higher education using learning analytics (STELA).**  
Co-Funded by the Erasmus+ Programme of the European Union

## TEACHING EXPERIENCE

**Delft University of Technology Master's Seminar on Web Information Systems**  
♦ *Teaching Assistant*

**Georgetown University CCTP 505: Intro to Interdisciplinary Studies**  
♦ *Lead Teaching Assistant, Technology & Discussion*

**Georgetown University [INFX 523](#): Globalization's Winners and Losers**

♦ *Teaching Assistant*

**Georgetown University [CCTP 798](#): Key Concepts in Technology & How to Use Them**

♦ *Teaching Assistant*

**Georgetown University CCTP 850: Digital Presence & Strategic Persuasion**

♦ *Teaching Assistant, Instructional Design*

**RESEARCH  
MENTORING**

Ioana Jivet: MSc student in Software Technology;  
Master's Thesis advisor; "Encouraging Metacognition & Self-Regulation in MOOCs with Learner Feedback"

**EMPLOYMENT**

**Center for New Designs in Learning and Scholarship (CNDLS)**  
*Graduate Researcher, Learning Analytics & Design*

**Washington, D.C.**  
August 2014-May 2015

**Prof. Martin Irvine's "Key Concepts of Technology" Course**  
*Course Environment Designer & Teaching Assistant*

**Washington, D.C.**  
January 2014-January 2015

**Kennedy Institute of Ethics (KIE) [PHLX101](#)**  
*Core MOOC Production Team*  
*Instructional & Graphic Designer*

**Washington, D.C.**  
November 2013-May 2015

**Georgetown University Information Services (UIS)**  
*Graphic Designer, New Media Consultant*

**Washington, D.C.**  
October 2013-September 2014

**National Education Association (NEA)**  
*Campaigns & Elections*

**Washington, D.C.**  
September 2013-December 2013

**FILM  
CREDITS**

**Oustaz (2016) *Producer***

**Festival Selections:**

Berlin International Film Festival (2016) - **Nominated for Golden Bear**  
Festival du Film Pan-Africain de Cannes (2016)  
IndieLisboa (2016)  
Brooklyn Film Festival (2016) - **Winner, Spirit of the Festival**  
Future Shorts Summer Programme (2016)  
Kinemastik Malta (2016)  
Festival Cinémas d'Afrique (2016)  
Milan Film Festival (2016)  
Sudan Independent Film Festival (2017)

**Shukran My Totem (2016) *Photographer***

**Festival Selections:**

Sudan Independent Film Festival (2017)

**Blink If You Can Hear Me (2015) *Art Director***

**Festival Selections:**

DC Shorts Film Festival (2015)

**ADDITIONAL  
ACTIVITIES**

**Carnegie Mellon LearnLab Summer School**

♦ Computer-Supported Collaborative Learning (CSCL) track

Summer 2016

**GeorgetownX Design Innovation Group**

♦ Director (2014-2015 Academic Year)

January 2014 – May 2015

**Designing the Future(s) of the University**

♦ Research & Innovation

December 2013 – May 2015