

Joseph Warren Clark

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Most Recent Position

Clinical Assistant Professor, Information Systems, Arizona State University

Areas of Specialization

Agile and Lean approaches to software development, data analytics, and data engineering;
Simulation modeling of turbulence and uncertainty in decision environments.

Education

- 1999 BA in Communication, USC
- 2004 MBA, Tulane University
- 2012 PhD in Information Systems, USC
Dissertation: Developing a Theory of Trial-Based Problem Solving Through Simulation Methods.
Committee: Omar A. El Sawy (chair), Ann Majchrzak, Daniel E. O’Leary, Azad M. Madni

Academic Appointments

- 2006-2007 Lecturer, International College, China Agricultural University (中国农业大学)
- 2007-2012 Doctoral Candidate, Marshall School of Business, University of Southern California
- 2012-2013 Visiting Research Associate, Peter Kiewit Institute, University of Nebraska at Omaha
- 2013-2016 Clinical Assistant Professor, W.P. Carey School of Business, Arizona State University

University Teaching

- 2013-2016 CIS 440: Capstone Course in Information Systems, ASU
- 2014-2016 CIS 355: Business Data Warehouses and Dimensional Modeling, ASU
- 2013-2014 CIS 365: Relational Databases, ASU
- 2016 Big Data Management—Hadoop, Spark, and NoSQL, Indian School of Business (online)

Selected IT Industry Experience

- 1997-1998 Web Developer, freelance
- 1998-1999 Web Site Integrator, NBC.com
- 1999-2000 Web Development Specialist, MediaPower Inc., Portland, Maine
- 2000-2001 Senior Site Integrator, Walt Disney Internet Group

Current Research Projects & Working Papers

- “BANDIT” Simulation research demonstrating the contingent value of real-time feedback to decision makers.
→ Presented at HICSS in 2016; currently at work to prepare for journal submission.
- “TORCH” Study of design and operations of data analytics teams to reduce reliance on “unicorn” data scientists.
→ Initial paper in ICIS SIGDSA workshop in 2014; follow-up studies planned for 2016.

Books

- 2016 A Data Engineer's Manual. [E-book] Leanpub. <https://leanpub.com/data-engineers-manual>

Refereed Publications

- 2016 When are Real-Time Feedback Loops Most Valuable? New Insights from Bandit Simulations of Decision Making in Turbulent Environments. *Proceedings of HICSS*. (HICSS best paper nominee)
- 2015 Technology Frame Disruption During Short-Term Agile ISD Projects. *Proceedings of HICSS*. (with A. Read)
- 2014 Plumbing for Philosophers: The Operations of a Data Science Team. *Proceedings of the pre-ICIS SIGDSSA Workshop*. (with A. Xu)
- 2012 The Strategic Role of Business Intelligence in the Extended Enterprise: BI Configurations for Control Affordances in Outsourcing. *Proceedings of HICSS*.
- 2011 Exceptions and Other Rare and Irregular Events: Two Modes of Learning in Business Intelligence. *Proceedings of HICSS*.
- 2010 Value Creation of Mobile Services through Presence: Designing Mobile Information and Entertainment Applications with Presence in Mind. *Presence: Teleoperators and Virtual Environments*. (with K.M. Lee, D. Yates, and O.A. El Sawy)

Teaching Cases

- 2010 Business Intelligence at Guthy-Renker: The Promise and Challenges of Sensing the Pulse. *Proceedings of the SIGDSS/TUN Business Intelligence Congress II*. (with O.A. El Sawy)

Open Source Software

- 2014-2016 **bandito**: multi-armed bandit simulation models in Python
<https://github.com/joeclark-phd/bandito>
- 2013 Five Tutorials for Data Visualization and Analysis with R. University of Nebraska at Omaha. Available via Teradata University Network. (with Ruba Aljafari)

Workshop and Conference Presentations

- 2013 "Building Digital Capabilities for Trial-Based Problem Solving." Working paper presented at Pacific Telecommunications Council (PTC'13), January 2013, Honolulu.
- 2010 "Business Intelligence and Decision Making: Understanding BI as a Theory-performing Discipline of Decision Improvement." Working paper presented at Journal of the Association for Information Systems (JAIS) Theory Development Workshop, ICIS 2010, Dec 11, 2010, St. Louis.
- 2008 "Exceptions and Organizational Learning in BPM." Working paper presented at SIG Enterprise Systems pre-ICIS meeting, December 13, 2008, Paris.
- 2008 "Leveraging Presence in the Design of Mobile Services: Challenges, Opportunities, and Value Creation." Working paper presented at USC Institute for Communication Technology Management (CTM) conference on "Disruptive Forces in the Interactive Digital Media (IDM) Market Place: Opportunities or Threats?", August 1, 2008, Los Angeles.
- 2007 "Theorizing around Mushiness and Ephemerality: The Case of Emerging Technologies and Business Strategy." Working paper presented at Journal of Strategic Information Systems (JSIS) workshop, ICIS 2007, December 2007, Montreal. (with O.A. El Sawy, J. Johnson, J. Oh, and Y. Park)

Invited Talks

- 2014 "README driven development with GitHub at ASU." Phoenix Scrum User Group, Oct. 7, 2014.

Awards and Honors

- 2016 HICSS-49 best paper nomination. For “When are Real-time Feedback Loops Most Valuable?”
- 2013 Young Scholar Program (research award). Pacific Telecommunications Council (PTC’13).
- 2012 Meheroo Jussawalla Research Paper Prize. Pacific Telecommunications Council (PTC’12).
For a working paper with O.A. El Sawy and F. Pereira.
- 2011 Academy of Management OCIS Division Doctoral Consortium Participant
- 2011 AMCIS Doctoral Consortium Participant
- 2010 Most Adaptable BI Pedagogy Award. SIGDSS/TUN Business Intelligence Congress II.
For “Business Intelligence at Guthy-Renker” teaching case.

Service at ASU

- 2013-2016 Honors Faculty
- 2013-2016 IS Department Undergraduate Program Committee
- 2015-2016 Faculty Advisor, Department of Information Systems Club (DISC)
- 2015-2016 Honors Project Director: Alexander Neumann, Alex Poon, Christopher Frame
- 2014 Judge, ASU Student Entrepreneurship Initiative
- 2013-2014 Honors Project/Thesis Director: Diego Ortiz-Monasterio, Wade Hooke, Keith (Kiback) Ryu

Other Professional Service

- 2015 Teaching Track Co-Chair, SIGDSA/TUN Business Analytics Congress
- 2014 Teaching Track Co-Chair, SIGDSA Pre-ICIS Workshop
- 2012 Advisory Board Member, SIGDSS BI Congress III
- 2012- Editorial Board Member: *Intelligent Systems in Finance, Accounting, and Management*
- 2010- Reviewer: *MIS Quarterly*, *DATABASE*, *Decision Support Systems*, *Information Technology and People*, *HICSS*, *ICIS*, *AMCIS*, *ECIS*, *SIGDSA*, etc.

Management Experience

- 2015-2016 Hired and employed student workers as graders.
- 2013-2016 Coached and oversaw 93 student capstone projects for the Computer Information Systems major, mostly mobile app and web development, for large and small businesses and nonprofits.

Memberships

- 2007- Association for Information Systems
- 2009- SIGDSA (formerly SIGDSS)
- 2009- Teradata University Network

Certifications

- 2016 Big Data Hadoop Foundations, IBM
- 2013 Certified ScrumMaster (CSM), ScrumAlliance

Selected Technology Skills

Python programming: 2.x, 3.x, Anaconda, pandas, matplotlib, pyglet, SQLAlchemy, and more
Web development and databases: Flask, Heroku, AWS, PostgreSQL, MongoDB, HTML, CSS
Big Data and analytics: Hadoop, MapReduce, Pig, Hive, Apache Spark, Tableau, Excel, R, SQL