

MATTHEW D. PICKARD

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EDUCATION

Ph.D. – Management of Information Systems

June 2012

Eller College of Management
University of Arizona
Tucson, AZ

- Dissertation Title: “Persuasive Embodied Agents: Using Embodied Agents to Change People’s Behavior, Beliefs, and Assessments”
 - Committee Members: Dr. Jay F. Nunamaker, Dr. Joseph S. Valacich, Dr. Judee K. Burgoon,
- Certificate in College Teaching (completed Fall 2011)

Masters of Business Administration – Operations Management & Information Systems

April 2008

Marriott School of Management
Brigham Young University
Provo, UT

- MBA Department Scholarship, 2006-2007

Bachelors of Science – Computer Engineering

April 2002

College of Engineering and Technology
Brigham Young University
Provo, UT

- Academic Scholarship, 1999-2000

Electrical Engineering

April 1999

College of Computer Science and Engineering
Brigham Young University – Idaho (Ricks College)
Rexburg, ID

- Academic Scholarship, 1995-1996, 1998-1999
- Honor Student

RESEARCH STATEMENT

My primary research interest is persuasive technologies – technologies intentionally designed to change users’ attitudes and behaviors. Currently, I am investigating how to design embodied agents (EAs, i.e. avatars or virtual humans) to be maximally persuasive in a variety of contexts. Based on theory and prior empirical work, I leverage a mixed design- and behavioral-science approach to explore how characteristics of EAs influence people’s attitudes and behaviors. I also study how individual differences affect the persuasion attempts of EAs in diverse contexts. I am interested in learning, based on Psychology and Communications research, which elements of human-to-human persuasion apply to human-to-computer interactions. I rely primarily on laboratory experiments, but also employ surveys and qualitative methods.

TEACHING STATEMENT

My teaching interests are focused on the design and implementation of information systems (including accounting information systems). Specifically, I desire to teach information security, database management and computer/web programming. I have taught an introductory course in operations management and performed teaching assistant responsibilities (including instruction) for a database management course. I am the recipient of the Eller College Teaching Award for Graduate Student Instructors. My teaching approach is learner-centered and problem-based. I employ active learning techniques to engage my students and believe learning is more enjoyable and transparent when it is driven by a real-world goal to be achieved (such as creating a profitable online website). I have an extensive track record of teaching excellence in academia (4.6 out of 5.0 for teaching effectiveness), industry (4.6 out of 5.0 for customer satisfaction), and the community. I consider teaching one of the great joys in academia.

AWARDS AND RECOGNITIONS

- Eller College Teaching Award for Graduate Students (2011)

PROFESSIONAL ASSOCIATIONS

- Association for Information Systems (AIS)
- American Accounting Association (AAA)
 - Member of Information Systems Section
 - Member of Forensic and Investigative Accounting Section

RESEARCH EXPERIENCE

Research Associate – Center of Management of Information (CMI) **Apr 2010 to Present**
UNIVERSITY OF ARIZONA TUCSON, AZ

- Created several large datasets from three experiments testing embodied agent (EA) characteristics to maximize the ability of an EA to influence users' assessments.
- Enabled a variety of research by implementing an embodied agent (EA) framework from C# and several C/C++ APIs for experimental purposes. The framework has the capability to gather audio, transcription, and survey data.
- Designed and completed an experiment ($N > 100$) to study the effect of ethnicity on the perceived credibility of an EA. Initial results indicate that ethnicity does not significantly affect the perceived credibility of an EA.
- Created web interface and several plug-ins for an online linguistic-analysis tool.

Research Associate – Advanced Database Research Group / iPlant Collaborative **Sept 2009 to Apr 2010**
UNIVERSITY OF ARIZONA TUCSON, AZ

- Designed a conceptual diagram to capture the data provenance needs of the iPlant cyberinfrastructure.

Research Associate – Center of Management of Information (CMI) **Aug 2008 to Apr 2009**
UNIVERSITY OF ARIZONA TUCSON, AZ

- Organized a working group involving four key border-related government agencies. The working group was a key step in reaching out and beginning collaborations with these agencies which would eventually use the solutions CMI created. The data gathered at the working group continues to be leveraged in guiding the border security research.

Information Systems Ph.D. Preparation Program **May 2007 to Aug 2008**
BRIGHAM YOUNG UNIVERSITY PROVO, UT

- Learned behavioral research methodologies in seminar setting.
- Studied and discussed top journal articles on topics such as trust, technology acceptance, hedonic systems, and affect.
- Performed a study with a team of students directed by Dr. Paul Benjamin Lowry on the effect of affect trusting belief formation. Developed the Affect Infusion Trust Model (ATIM).

Research Assistant **May 2007 to Aug 2008**
BRIGHAM YOUNG UNIVERSITY PROVO, UT

- Clarified the amount of Information-Systems-related content offered in the nation's top-50 MBA programs through the collection and analysis of the programs' curriculum data.
- Helped establish the IS department as a leader in the business school for student job placement. Use VBA extensively to reconcile university student records with student exit survey data to clarify job placement statistics.

Market Research Field Study **Jan 2007 to Apr 2007**
BRIGHAM YOUNG UNIVERSITY PROVO, UT

- Estimated the market size and share of a major medical supplier using quantitative and qualitative survey methods. Personally surveyed 37 hospitals. Collectively, as a team, we surveyed 150+ hospitals. Played a significant role in quantitative analysis and presentation of data.

WORK IN PROGRESS AND UNDER REVIEW

Pickard, M., Burns, M., Moffitt, K. (under review). *A Forensic Accountant's Second Life™: Toward Automated Interviewing for Forensic Accounting Investigations*, Journal of Information Systems.

Lowry, P., Jenkins, J. **Pickard, M.**, Twyman, N. and Bui, Q. *Proposing the Affect-Trust Infusion Model (ATIM) to Explain and Predict the Influence of High- and Low-Affect Infusion on Web Vendor Trust* (targeting MISQ).

CONFERENCE AND WORKSHOP PROCEEDINGS

Pickard, M., Jenkins, J. (2011). *Embodied Agents and the Predictive Elaboration Model of Persuasion – Embodied Agents Tailored to Users' Need for Cognition*. Accepted to Hawaii International Conference on System Sciences (HICCS) Human-Computer Interaction (HCI) Minitrack, Maui, Hawaii, USA.

Lowry, P., Jenkins, J. **Pickard, M.**, Twyman, N. and Bui, Q. *Proposing the Affect-Trust Infusion Model (ATIM) to Explain and Predict the Influence of High- and Low-Affect Infusion on Web Vendor Trust*, JAIS Theory Development Workshop, International Conference on Information Systems (ICIS), 2011, Shanghai, China.

Pickard, M., Burns, M., Jenkins, J. (2011). *Persuasive Embodied Agents Tailored to Users' Self-Esteem and Tendency to Self-Monitor*. Pre-ICIS Workshop on Human-Computer Interaction (HCI) in MIS, 2011, Shanghai, China (abstract only).

Pickard, M., Burns, M., Moffitt, K. (2012). *A Forensic Accountant's Second Life™: Toward Automated Interviewing for Forensic Accounting Investigations*. American Accounting Association Information Systems Section Midyear Conference 2012, Scottsdale, AZ.

Burns, M., Elder, K., **Pickard, M.**, Chowdery, I., Moffit, K., & Zhao, J. (2009). *Proposing a Vendor-Independent Service-Oriented Architecture (SOA) Maturity Model*. Presented at MISQ-Executive pre-AMCIS Writing for Practitioners Workshop, San Francisco, California, USA.

RESEARCH GRANTS

Moffitt, K., Jenkins, J., **Pickard, M.**, Burgoon, J.K. (2009). SPLICE: Building an accessible platform for future linguistic tool building. Awarded by Center for Identification Technology Research for \$37,000.

Moffitt, K., Humpherys, S., Burgoon, J.K., **Pickard, M.**, & Burns, M. (2008). Evaluating and integrating speech recognition software into Agent99 software for real-time deception detection. Awarded by The Center for Identification Technology Research for \$50,000.

CONFERENCE PRESENTATIONS

Pickard, M. (2011) Proposal: Maximizing the Persuasiveness of Computerized Embodied Agents through Reinforcement Learning. Presented at the semi-annual CITeR Meeting, Tucson, AZ.

Pickard, M. (2010) *Final Report: Integrating Agent99, LIWC and building an accessible platform for future tool building*. Presented at the semi-annual CITeR Meeting. Morgantown, WV.

TEACHING EXPERIENCE

Instructor
UNIVERSITY OF ARIZONA

July 2011 to Aug 2011
TUCSON, AZ

- Course: MIS 373 – Introduction to Operations Management

- Student ratings at mid-term averaged 6.5 out of 7.
- Final student ratings: 4.6 out of 5.0 for *overall teaching effectiveness*.
- 2011 Eller College Teaching Award For Graduate Student Instructors

Teaching Assistant

Sept 2009 to Dec 2009

UNIVERSITY OF ARIZONA

TUCSON, AZ

- Course: MIS 531 – Enterprise Data Management
- Created and presented lectures on SQL, DDL, and PL/SQL.

Technical Instructor

Aug 2009 to Sept 2010

RAYTHEON MISSILE SYSTEMS

TUCSON, AZ

- Improved the skills of 50+ employees through the design and delivery of Perl classes for task automation. Skills taught include spreadsheet manipulation, web-page scraping, and regular expressions.

Application Engineer

2002 to 2004

NATIONAL INSTRUMENTS

AUSTIN, TX

- Improved technical skills of 90 customers in 12 one-week courses. Averaged 4.6 out of 5 for customer satisfaction.

Engineering Intern / Instructor

2000 to 2002

NATIONAL INSTRUMENTS

AUSTIN, TX

- Boosted company's reputation on BYU's campus by training 100 students and 5 professors. Original training program was discontinued by BYU. Responded by freelancing new training for an expanded set of students.

ACADEMIC SERVICE

Reviewer, Pre-ICIS 2011 Workshop on Human-Computer Interaction (HCI) in MIS, Shanghai, China.

Student Volunteer, SIGHCI Workshop, International Conference on Information Systems (ICIS) 2009, Phoenix, AZ.

Reviewer, Information Systems Research 2010

Reviewer, Pacific Asia Conference on Information Systems (PACIS) 2009.

PROFESSIONAL EXPERIENCE

Contractor

2009 to Present

RAYTHEON MISSILE SYSTEMS

TUCSON, AZ

- Provided a local finance group with a statistical perspective of their factory production.
- Completed forty hours of Statistica (statistical package) training.

Project Manager

2005 to 2006

NATIONAL INSTRUMENTS

AUSTIN, TX

- Protected company's market share, led a 15-member team to develop proposals for the Directors of Engineering to defend against threat of an emerging industry standard. The Directors were pleased with the proposed plans.
- Effectively trained the V.P. of R&D and 55 engineers on the aforementioned standard via PowerPoint presentations.
- Met the needs and schedule requirements of 5 other projects while managing an established strategic software driver project. Shipped the project on time and within budget.

Software Engineer

2004 to 2005

NATIONAL INSTRUMENTS

AUSTIN, TX

- Cut product testing time in half. Re-engineered testing process and drove the purchase of dedicated test equipment.
- Increased testing coverage by 25%. Organized testing procedures in a database to better track progress and coverage.
- Enabled customers to program FireWire devices. Created a plug-in for a software driver.

Application Engineer

2002 to 2004

NATIONAL INSTRUMENTS

AUSTIN, TX

- Provided 800+ customers with quality technical assistance and solutions. Representative feedback is reflected in one customer's comment: "When Matt took over, the process really started moving along."
- Captured publicity for company. Turned an ordinary support request into extensive company assistance for a local high school rocket club preparing for a publicized test launch. Leveraged relationships with various departments to donate equipment, personal support, and paraphernalia. Launch was successful, despite a short deadline.
- Rated #1 out of 95 employees for improvements to company's technical support website.

TECHNICAL SKILLS

MySQL, Oracle, Microsoft Access

C/C++

Java

Python

Microsoft C# .NET

Perl

Microsoft Visual Studio 6.0/2008/2010

Visual Basic for Applications (VBA)

HTML / CSS

Windows 98/2000/XP/7

Microsoft Office (very proficient)

Unix/Linux/FreeBSD

SIGNIFICANT ACADEMIC TECHNICAL PROJECTS

Facebook Birthday Gift Recommender

- Designed a Facebook Application using Ruby on Rails to list the birthdays of a user's friends and, based upon each friend's available information, make recommendations on gifts that friend might like.
- Recommendations were presented in a mash-up format from sources like Amazon and Eventful.com.

Bank Transaction Model View Controller Framework and GUI in Java

- Developed a MVC framework and GUI in Java (integrated with Apache Tomcat) for a bank transaction service.

Real-time Operating System

- Designed a real-time kernel which performed interrupt handling, scheduling, and dispatching. It also included queue, semaphore, mutex, and event primitives.
- Majority of the code was written in C. Increased performance of the OS by optimizing the generated assembly.

Networking Protocol Stack

- Created the Physical, Ethernet, IP, TCP layers of the TCP/IP networking protocol stack. Also implemented CRC, ARP, NAT, and a simple HTTPD.
- Designed a suite of testing tools in order to accelerate the debugging process.

INTERNATIONAL EXPERIENCE

Missionary

THE CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS

May 1996 to May 1998

CZECH REPUBLIC / SLOVAKIA

COMMUNITY SERVICE

President of Church Men's Association – 2009-present

Religious Instructor – 2007-2009

Product Development Student Association – 2007

Supply Chain Student Association – 2006-2007

Cub Scout Cubmaster – 2004-2005

High School Rocket Club Mentor – 2002