

## Robert P. Schumaker

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Website: [www.robschumaker.com](http://www.robschumaker.com)

Erdos Number: 5

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### PRIMARY TEACHING / RESEARCH INTEREST

- ◆ eCommerce, Telecommunications, Networking, Data Mining and Knowledge Management
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### SPECIFIC RESEARCH INTERESTS

- ◆ Knowledge Discovery and Data Mining
  - ◆ Information Retrieval
  - ◆ Electronic Commerce
  - ◆ Knowledge Management
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### SPECIFIC TEACHING INTERESTS

- ◆ Data Mining
  - ◆ Knowledge Management
  - ◆ Telecommunications
  - ◆ Programming Languages
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### ACADEMIC PREPARATION

#### Ph.D. in Management

*The Eller College of Business, University of Arizona, 2007*

Major: Management of Information Systems

Minor: Linguistics

Dissertation Title: Knowledge Acquisition, Delivery and Prediction through Text Mining

Advisor: Hsinchun Chen

#### Masters of Business Administration

*College of Business Administration, University of Akron, 2001*

Major: Management

Minor: International Business

#### Bachelor of Science

*College of Engineering, University of Cincinnati, 1997*

Major: Civil Engineering

Concentration: Transportation Engineering

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## PROFESSIONAL EXPERIENCE

### Visiting Assistant Professor, Fall 2010 – Present

*Computer and Information Science, Cleveland State University*

#### Current Research Areas:

- ◆ Sports Data Mining – Mining relevant data from Sports-related databases and producing accurate predictions from them can provide an edge to sports organizations and gamblers alike. Using the Moneyball style philosophy, this project analyzes the use of different machine learning techniques to predict outcomes of sporting events.
  
- ◆ Textual Financial Prediction – A further continuation of prior textual financial research, this project utilizes the Arizona Financial Text System (AZFinText) to represent financial news articles and make trades based on the terms contained within them. This variation of the project examines different linguistic representational models and evaluates their predictive results to market trading activity.

#### Teaching:

- ◆ Business Information Systems
- ◆ Database
- ◆ Software Tools for Personal Productivity
  
- Responsible to challenge students with interesting and active materials relevant to business
- Provided invaluable peer insight into continuing efforts to improve student curriculum
- Anticipated areas of student difficulty and adjusts dynamic lectures accordingly

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### Assistant Professor, Fall 2007 – Summer 2010

*Dept. of Information Systems, Iona College*

#### Research Areas:

- ◆ Sports Data Mining – Identifying patterns, trends and tendencies within an opponent can provide valuable knowledge to a sports organization. Similarly, these same tools can be used on your existing organization to identify weaknesses and identify potentially favorable matchups. This project looked at the competitive sports knowledge landscape, identifying such data mining tools and knowledge synthesis techniques that can be applied across different organizations.
  
- ◆ Textual Financial Prediction – A continuation of the AZFinText studies, this project examines the relationship between financial news articles and their impact on stock market prices. Prediction is made utilizing various textual representation schemes, price prediction models and machine learning techniques to accomplish profitability in extreme near-term trading. Based on the premise that unexpected news events can shape the price of a stock, we capitalize on automatically identifying the relevant keywords in the news article and then execute a trade well-before human traders have a chance to read the news article.

**Teaching:**

- ◆ Business Information Systems
  - ◆ Data Mining
  - ◆ Internet Applications
  - ◆ Network Construction
  - ◆ Quantitative Investing
  - ◆ Telecommunications
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**Research Associate, Fall 2003 – Spring 2007**

*Artificial Intelligence Lab*

*Dept. of Management of Information Systems, Univ. of Arizona*

**Research Areas:**

- ◆ Textual Financial Prediction – Known as AZFinText, this project examines the relationship between financial news articles and their impact on stock market prices. Prediction is made utilizing various textual representation schemes, price prediction models and machine learning techniques to accomplish profitability in extreme near-term trading. Based on the premise that unexpected news events can shape the price of a stock, we capitalize on automatically identifying the relevant keywords in the news article and then execute a trade well-before human traders have a chance to read the news article.
  
  - ◆ Question Answer Systems – The AZ-ALICE and TARA chatterbot experiments were an exploration into the potential of using natural language chatterbots as conversational entities. These two studies, AZ-ALICE in Fall 2003 and TARA in Spring/Summer 2004, were built on the proven ALICE chatterbot engine ([www.alicebots.org](http://www.alicebots.org)). In the AZ-ALICE experiment we tested a limited telecommunications knowledge set to see how well the chatterbot could respond to telecommunications-related questions. The TARA studies went one step further and analyzed a substantial terrorism knowledge base that was automatically gathered from the Internet. From our experiments we found several interesting facets. The most important of which was the discovery that adding more knowledge to the system actually harmed the quality of responses.
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**Instructor, Summer 2004**

*Dept. of Management of Information Systems, Univ. of Arizona*

Course: Business Information Systems

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**Instructor, Fall 2000 – Summer 2003**

*College of Business Administration, Univ. of Akron*

Courses: MicroComputer Applications  
Business Information Systems

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## JOURNAL PUBLICATION

- (1) Schumaker, R., & Chen, H., (2010) Interaction Analysis of the ALICE Chatterbot: A Two Study Investigation of Dialog and Domain Questioning. *IEEE Systems, Man & Cybernetics Part A*, 40(1): 40-51.
- (2) Schumaker, R., & Chen, H., (2010) A Discrete Stock Price Prediction Engine Based on Financial News. *IEEE Computer*, 43(1): 51-56.
- (3) Schumaker, R., Solieman, O., & Chen, H., (2009) Sports Knowledge Management and Data Mining. *Annual Review of Information Science and Technology*, 44.
- (4) Schumaker, R., & Chen, H., (2009) A Quantitative Stock Prediction System based on Financial News. *Information Processing and Management*, 45(5): 571-583.
- (5) Schumaker, R., & Johnson, J., (2008) An Investigation of SVM Regression to Predict Longshot Greyhound Races. *Communications of the International Information Management Association*, 8(2): 67-82.
- (6) Schumaker, R., & Chen, H., (2008) Textual Analysis of Stock Market Prediction Using Breaking Financial News: The AZFinText System. *Association for Computing Machinery Transactions on Information Systems*, 27(2).
- (7) Schumaker, R., & Chen, H., (2008). Evaluating a News-Aware Quantitative Trader: The Effects of Momentum and Contrarian Stock Selection Strategies. *Journal of the American Society for Information Science and Technology*, 59(2): 247-255.
- (8) Schumaker, R., & Chen, H., (2007). Leveraging Question Answer Technology to Address Terrorism Inquiry. *Decision Support Systems*, 43(4): 1419-1430.
- (9) Schumaker, R., Liu, Y., Ginsburg, M., & Chen, H., (2007). Evaluating the Efficacy of a Terrorism Question Answer System: The TARA Project. *Communications of the ACM*, 50(7): 74-80.
- (10) Schumaker, R., Liu, Y., Ginsburg, M., & Chen, H., (2006). Evaluating Mass Knowledge Acquisition using the ALICE Chatterbot. *International Journal of Human-Computer Studies*, 64(11): 1132-1140.
- (11) Schumaker, R., Ginsburg, M., Chen, H., & Liu, Y., (2006). An Evaluation of the Chat and Knowledge Delivery Components of a Low-Level Dialog System: The AZ-ALICE Experiment. *Decision Support Systems*, 42(4): 2236-2246.

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## PAPERS UNDER REVIEW

- (1) Schumaker, R., Zhang, Y., & Huang, C., Sentiment Analysis of Financial News Articles. *Communications of International Information Management Association*
  - (2) Schumaker, R., Analyzing Parts of Speech and their Impact on Stock Price. *Communications of International Information Management Association*
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## CONFERENCE PUBLICATION

- (1) Schumaker, R., Analyzing Parts of Speech and their Impact on Stock Price. *21<sup>st</sup> Annual Conference of the International Information Management Association (IIMA-2010)*, October 2010. Utrecht, Netherlands
- (2) Schumaker, R., An Analysis of Verbs in Financial News Articles and their Impact on Stock Price. *NAACL Workshop on Social Media (#Social Media-2010)*, June 2010. Los Angeles, CA
- (3) Schumaker, R., Zhang, Y., & Huang, C., (2009). Evaluating Sentiment in Financial News Articles. *20<sup>th</sup> Annual Conference of the International Information Management Association (IIMA-2009)*, October 2009. Houston, TX
- (4) Schumaker, R., (2009). Analyzing Representational Schemes of Financial News Articles. *The Third China Summer Workshop on Information Systems (CSWIM-2009)*, June 2009. Guangzhou, China
- (5) Schumaker, R., & Johnson, J., (2008). An Investigation of SVM Regression to Predict Longshot Greyhound Races. *19<sup>th</sup> Annual Conference of the International Information Management Association (IIMA-2008)*, October 2008. San Diego, CA
- (6) Reid, E., Qin, J., Chung, W., Xu, J., Zhou, Y., Schumaker, R., Sageman, M., & Chen, H., (2004). Terrorism Knowledge Discovery Project: A Knowledge Discovery Approach to Addressing the Threats of Terrorism. *IEEE International Conference on Intelligence and Security Informatics (ISI-2004)*, June 2004. Tucson, AZ
- (7) McDonald, D., Chen, H., & Schumaker, R., (2005). Transforming Open-Source Documents to Terror Networks: The Arizona TerrorNet. *American Association for Artificial Intelligence Conference Spring Symposia (AAAI-2005)*, March 2005. Stanford, CA
- (8) Schumaker, R., & Chen, H., (2006). Textual Analysis of Stock Market Prediction Using Financial News Articles. *Americas Conference on Information Systems (AMCIS-2006)*, Aug 2006. Acapulco, Mexico

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## BOOKS

- (1) Schumaker, R., Solieman, O., & Chen, H., (2010). Sports Data Mining: Uncovering New Knowledge and Performance Measures, New York: Springer

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## BOOK CHAPTERS

- (1) Schumaker, R., & Chen H., (2011). "Predicting Stock Price Movement from Financial News Articles," in Yap, Alex, IS for Global Financial Markets, New York: IGI Global
- (2) Schumaker, R., & Chen, H., (2006). "Case Study 17: A Dialog System for Terrorism Resources," in Chen, Hsinchun, Intelligence and Security Informatics for International Security: Information Sharing and Data Mining, pp 136-139 New York: Springer

## POSTERS AND DEMONSTRATIONS

- (1) Schumaker, R., Chen, H., Wang, T., & Wilkerson, J., (2005). Terror Tracker System: A Web Portal for Terrorism Research. *Joint Conference on Digital Libraries (JCDL-2005)*, June 2005. Denver, CO
- (2) Schumaker, R., & Chen, H., (2005) Question Answer TARA: A Terrorism Activity Resource Application. *IEEE International Conference on Intelligence and Security Informatics (ISI-2005)*, May 2005. Atlanta, GA

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## WORKING PAPERS

- (1) Schumaker, R., Zhang, Y., Huang, C., & Chen, H., Evaluating Sentiment in Financial News Articles. *ACM Transactions on Management Information Systems*.
- (2) Schumaker, R., & Johnson, J., Using SVM Regression to Predict Greyhound Races. *IEEE Intelligent Systems*
- (3) Schumaker, R., An Investigation of SVM Regression to Predict Longshot Thoroughbred Races. *22nd Annual Conference of the International Information Management Association*.
- (4) Schumaker, R., Predicting Thoroughbred Races using Machine Learning Techniques. *Decision Support Systems*.
- (5) Schumaker, R., Tracking Media Sentiment. *IEEE Computer*.

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## GRANT PROPOSALS

- (1) CELTIC Excellence in Teaching Awards, “Exploring the Link between Internet Applications and Robotics,” 2009, \$1,500. Funded 2009.
- (2) Price Waterhouse Coopers Inquires, “Leveraging XBRL for Continuous Auditing,” 2007, \$152,838.
- (3) National Science Foundation – The National Science Digital Library, “Knowledge Creation and Integration for NSDL: Learning Support for Digital Libraries,” 2005, \$499,865.

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## NOTABLE PUBLICITY AND INTERVIEWS OF ROB AND HIS RESEARCH

- (1) Pangburn, J., (2010). Using Artificial Intelligence to Predict Short-term Stock Market Performance. *Inside Tucson Business*. Retrieved July 2, 2010 from <http://www.azbiz.com/articles/2010/07/02/news/doc4c2cedf634290474040635.txt>
- (2) Valentino-DeVries, J., (2010). Using Artificial Intelligence to Digest news, Trade Stocks. *Wall Street Journal*. Retrieved June 21, 2010 from <http://blogs.wsj.com/digits/2010/06/21/using-artificial-intelligence-to-digest-financial-news/>
- (3) Aronson, D., (2010). Algos Better than Mere Humans. *Daily Speculations*. Retrieved June 13, 2010 from <http://www.dailyspeculations.com/wordpress/?p=4883>

- (4) Rowley, B., (2010). US Plays Brilliant Match, Stocks Repairing. *T3 Live*. Retrieved June 13, 2010 from <http://blog.t3live.com/2010/06/us-plays-brilliant-match-stocks.html>
- (5) Anonymous, (2010). Quant AI Picks Stocks Better than Humans. *Slashdot*. Retrieved June 12, 2010 from <http://tech.slashdot.org/story/10/06/12/1341212/Quant-AI-Picks-Stocks-Better-Than-Humans>
- (6) Brown, J., (2010). The Most Stock-Moving Verbs. *The Reformed Broker*. Retrieved June 12, 2010 from <http://www.thereformedbroker.com/2010/06/12/the-most-stock-moving-verbs/>
- (7) Anonymous, (2010). AI Stocks Outperformed Professional Traders. *Solidot*. Retrieved June 12, 2010 from <http://science.solidot.org/article.pl?sid=10/06/12/0851223&from=rss>
- (8) Anonymous, (2010). Strangest Mechanical System. *The Motley Fool*. Retrieved June 11, 2010 from <http://boards.fool.com/Message.asp?mid=28567980&sort=postdate>
- (9) Elfenbein, E., (2010). Another Defeat for Humans. *Crossing Wall Street*. Retrieved June 10, 2010 from [http://www.crossingwallstreet.com/archives/2010/06/another\\_defeat\\_1.html](http://www.crossingwallstreet.com/archives/2010/06/another_defeat_1.html)
- (10) Byrne, M., (2010). Beating the Market with Artificial Intelligence. *Motherboard TV*. Retrieved June 10, 2010 from <http://www.motherboard.tv/2010/6/10/beating-the-market-with-artificial-intelligence--2>
- (11) WBIR, (2010). AI that Picks Stocks Better than the Pros. *WBIR-TV Channel 10 Knoxville, TN*, Retrieved June 10, 2010 from <http://sec.wbir.com/article/04qZ54Ac87eF1?q=Yahoo!>
- (12) Mims, C., (2010). AI that Picks Stocks Better than the Pros. *MIT's Technology Review*, Retrieved June 10, 2010 from <http://www.technologyreview.com/blog/guest/25308/>
- (13) Ingebretsen, M., (2009). Intelligent Handicapping. *IEEE Intelligent Systems*, 24(2):6-7

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## SEMINARS, INVITED TALKS AND CONFERENCE PRESENTATIONS

- (1) "Computer Security," *USF St. Petersburg*, St. Petersburg, FL, May 27, 2010
- (2) "Evaluating Sentiment in Financial News Articles," *USF St. Petersburg*, St. Petersburg, FL, May 27, 2010
- (3) "An Investigation of SVM Regression to Predict Longshot Greyhound Races," *Minot State University*, Minot, ND, Apr. 15, 2010
- (4) "Artificial Intelligence," *Minot State University*, Minot, ND, Apr. 14, 2010
- (5) "Evaluating Sentiment in Financial News Articles," *Cleveland State University*, Cleveland, OH, Apr. 1, 2010
- (6) "An Investigation of SVM Regression to Predict Longshot Greyhound Races," *Augsburg College*, Minneapolis MN, Mar. 12, 2010
- (7) "Evaluating Sentiment in Financial News Articles," *International Information Management Association Conference (IIMA-2009)*, Houston, TX, Oct. 13, 2009

- (8) “Analyzing Representational Schemes of Financial News Articles,” *The Third China Summer Workshop on Information Systems (CSWIM-2009)*, Guangzhou China, June 27, 2009
- (9) “An Investigation of SVM Regression to Predict Longshot Greyhound Races,” *International Information Management Association Conference (IIMA-2008)*, San Diego CA, Oct. 13, 2008
- (10) “Sports Knowledge Management and Data Mining,” *Information Systems Dept. Research Seminar*, New Rochelle NY, Mar. 25, 2008
- (11) “Using SVM Regression to Predict Greyhound Races,” *Information Systems Dept. Research Seminar*, New Rochelle NY, Oct. 22, 2007
- (12) “Textual Analysis of Stock Market Prediction Using Financial News Articles,” *SAS 10<sup>th</sup> Annual Data Mining Conference*, Las Vegas NV, Oct. 2, 2007
- (13) “Knowledge Acquisition, Delivery and Prediction through Text Mining,” *Graduate College – Final Defense*, Tucson AZ, Apr. 19, 2007
- (14) “Evaluating a News-Aware Quantitative Trader: The Effect of Momentum and Contrarian Stock Selection Strategies,” *Iona College*, New Rochelle NY, Apr. 13, 2007
- (15) “Using SVM Regression to Predict Greyhound Races,” *Artificial Intelligence Lab – PhD Seminar*, Tucson AZ, Mar. 30, 2007
- (16) “Evaluating a News-Aware Quantitative Trader: The Effects of Momentum and Contrarian Stock Selection Strategies,” *Artificial Intelligence Lab – PhD Seminar*, Tucson AZ, Feb. 16, 2007
- (17) “Stock Prediction with Financial News Articles: The Effect of Industry Classification,” *MIS Dept. Brown Bag Lecture Series*, Tucson AZ, Sept. 1, 2006
- (18) “Stock Prediction with Financial News Articles: The Effect of Industry Classification,” *Artificial Intelligence Lab – PhD Seminar*, Tucson AZ, Aug. 18, 2006
- (19) “Textual Analysis of Stock Market Prediction Using Financial News Articles,” *Americas Conference on Information Systems (AMCIS-2006)*, Acapulco Mexico, Aug. 4, 2006
- (20) “Knowledge Acquisition, Delivery and Prediction through Text Mining,” *Graduate College – Oral Examination*, Tucson AZ, May 10, 2006
- (21) “Knowledge Acquisition, Delivery and Prediction through Text Mining,” *Artificial Intelligence Lab – PhD Seminar*, Tucson AZ, Apr. 28, 2006
- (22) “Textual Analysis of Stock Market Prediction Using Breaking Financial News,” *Artificial Intelligence Lab – PhD Seminar*, Tucson AZ, Nov. 4, 2005
- (23) “Interaction Analysis of the ALICE Chatterbot,” *MIS Department – Written Prelim*, Tucson AZ, Oct. 6, 2005
- (24) “Textual Analysis of Stock Market Prediction Using Breaking Financial News,” *Artificial Intelligence Lab – PhD Seminar*, Tucson AZ, July 1, 2005
- (25) “Evaluating the Efficacy of a Terrorism Question Answer System: The TARA Project,” *Artificial Intelligence Lab – PhD Seminar*, Tucson AZ, Sept. 17, 2004

- (26) “Evaluating Mass Knowledge Acquisition using the ALICE Chatterbot,” *Artificial Intelligence Lab – PhD Seminar*, Tucson AZ, Jan. 23, 2004

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## **EDITORIAL BOARDS, EDITORSHIPS AND JOURNAL MINUTIAE**

### **Associate Journal Editor**

*Communications of the International Information Management Association, 2009 – Present*

### **Editorial Board Member**

*Information Systems for Global Markets, 2010 – Present*

### **Journal Reviewer**

- *ACM Transactions on Computer-Human Interaction*
- *ACM Transactions on Information Systems*
- *Communications of the ACM*
- *Communications of the IIMA*
- *IEEE Intelligent Systems*
- *IEEE Systems, Man & Cybernetics, Part A*
- *Information Systems Frontiers*
- *Journal of Electronic Commerce Research*

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## **CONFERENCE BOARDS, CHAIRS AND MINUTIAE**

### **Executive Committee Member**

*International Information Management Association Conference, 2010*

### **Program Committee Member**

*Workshop on Social Media and Computational Linguistics, 2010*

### **Track Chair**

*International Information Management Association Conference*

- eCommerce Track – 2010
- Sports Knowledge Management and Data Mining – 2009

### **Conference Reviewer**

- *#SocialMedia – NAACL Workshop on Social Media, 2010*
- *AAAI – American Association for Artificial Intelligence, 2005*
- *AMCIS – Americas Conference on Information Systems, 2006*
- *BPM – Business Process Management, 2010*
- *CIKM – Conference on Information Knowledge and Management, 2006*
- *DELOS – Workshop on User Interfaces in Digital Libraries, 2005*
- *DESRIST – International Conference on Design Science, 2006*
- *DGO – International Conference on Digital Government Research, 2006*
- *ECDL – European Conf. on Research & Advanced Technology for Digital Libraries, 2007*
- *ICADL – International Conference of Asian Digital Libraries, 2005, 2006*
- *ICIS – International Conference on Information Systems, 2006*
- *IIMA – International Information Management Association, 2008 – 2010*

- *ISI – IEEE International Conference on Intelligence and Security Informatics, 2005, 2006*
- *JCDL – Joint Conference on Digital Libraries, 2005*
- *PSB – Pacific Symposium on BioComputing, 2006*
- *SISC – San Diego International Systems Conference, 2005*
- *WeB – Workshop on e-Business, 2005*
- *WISI – Workshop on Security and Intelligence Informatics, 2006*
- *WSA – Workshop on Sciences of the Artificial, 2005*

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## MEMBERSHIP IN PROFESSIONAL SOCIETIES

- ◆ Association for Computer Machinery (ACM)
  - ◆ Institute for Electrical and Electronics Engineers (IEEE)
  - ◆ The Society for American Baseball Research (SABR)
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## TEACHING EXPERIENCE

### Cleveland State University

#### *Undergraduate*

- Business Information Systems
  - IST 305 - 1      Spring 2011      Scheduled
  - IST 305 - 502    Spring 2011      Scheduled
  - IST 305 - 1      Fall 2010        Scheduled
  - IST 305 - 2      Fall 2010        Scheduled
- Database
  - IST 331 - 50      Spring 2011      Scheduled
- Software Tools for Personal Productivity
  - IST 203 - 1      Spring 2011      Scheduled
  - IST 203 - 1      Fall 2010        Scheduled
  - IST 203 - 4      Fall 2010        Scheduled

#### *Graduate*

- Database
  - IST 604 - 50      Spring 2011      Scheduled

### Iona College

#### *Undergraduate*

- Business Information Systems
  - BUS 150 – B      Fall 2009      Teacher Rating of 3.50 on a 4.0 scale
  - BUS 150 – C      Fall 2009      Teacher Rating of 3.00 on a 4.0 scale
  - BUS 150 – D      Fall 2009      Teacher Rating of 3.55 on a 4.0 scale
  - BUS 150 – F      Fall 2009      No Results (Partial semester for a colleague)
  - BUS 150 – EA     Summer 2009    Teacher Rating of 3.00 on a 4.0 scale
  - BUS 150 - C      Spring 2009    Teacher Rating of 3.47 on a 4.0 scale
  - BUS 150 - D      Spring 2009    Teacher Rating of 3.40 on a 4.0 scale
  - BUS 150 - E      Spring 2009    Teacher Rating of 3.17 on a 4.0 scale
  - BUS 150 - C      Fall 2008        Teacher Rating of 2.90 on a 4.0 scale

- BUS 150 - D      Fall 2008      Teacher Rating of 2.87 on a 4.0 scale
- BUS 150 - EA     Summer 2008    Teacher Rating of 3.50 on a 4.0 scale
- BUS 150 - EB     Summer 2008    Teacher Rating of 3.00 on a 4.0 scale
- BUS 150 - C      Spring 2008     Teacher Rating of 3.13 on a 4.0 scale
- BUS 150 - M      Spring 2008     Teacher Rating of 3.05 on a 4.0 scale
- BUS 150 - D      Spring 2008     Teacher Rating of 3.22 on a 4.0 scale
- BUS 150 - D      Fall 2007        Teacher Rating of 3.17 on a 4.0 scale
- BUS 150 - E      Fall 2007        Teacher Rating of 3.00 on a 4.0 scale
- BUS 150 - F      Fall 2007        Teacher Rating of 3.58 on a 4.0 scale
  
- Internet Applications in Business
  - IS 355            Spring 2009      Teacher Rating of 3.75 on a 4.0 scale
  
- Network Construction
  - IS 450            Summer 2008    No Results

***Graduate***

- Business Information Systems
  - MBA 580         Summer 2009    No Results
  
- Data Mining
  - IS 685            Fall 2009        No Results
  - IS 685            Fall 2008        Teacher Rating of 2.20 on a 4.0 scale
  
- Quantitative Investment
  - IS 615            Summer 2009    No Results
  - IS 615            Summer 2008    No Results
  
- Telecommunications
  - IS 991            Winter 2007     No Results

**University of Arizona**

***Undergraduate***

- Business Information Systems
  - MIS 304          Summer 2004    Teacher Rating of 4.20 on a 5.0 scale

**University of Akron**

***Undergraduate***

- Business Information Systems
  - 6500:310-080    Fall 2001        Teacher Rating of 3.07 on a 5.0 scale
  
- MicroComputer Applications
  - 6200:250-007    Spring 2003     Teacher Rating of 3.91 on a 5.0 scale
  - 6200:250-006    Spring 2003     Teacher Rating of 4.34 on a 5.0 scale
  - 6200:250-005    Spring 2003     Teacher Rating of 3.59 on a 5.0 scale
  - 6200:250-003    Spring 2003     Teacher Rating of 4.27 on a 5.0 scale
  - 6200:250-008    Fall 2002        Teacher Rating of 4.50 on a 5.0 scale
  - 6200:250-007    Fall 2002        Teacher Rating of 4.49 on a 5.0 scale
  - 6200:250-003    Fall 2002        Teacher Rating of 4.73 on a 5.0 scale (Top 20%)
  - 6200:250-002    Fall 2002        Teacher Rating of 4.52 on a 5.0 scale
  - 6200:250-488    Summer 2002    Teacher Rating of 4.60 on a 5.0 scale

- 6200:250-403 Summer 2002 Teacher Rating of 4.14 on a 5.0 scale
- 6200:250-002 Spring 2002 Teacher Rating of 4.22 on a 5.0 scale
- 6200:250-001 Spring 2002 Teacher Rating of 4.43 on a 5.0 scale
- 6200:250-007 Fall 2001 Teacher Rating of 4.03 on a 5.0 scale
- 6200:250-101 Summer 2001 Teacher Rating of 4.45 on a 5.0 scale
- 6200:250-008 Spring 2001 Teacher Rating of 4.54 on a 5.0 scale
- 6200:250-005 Fall 2000 Teacher Rating of 4.17 on a 5.0 scale

### *Continuing Education*

- Microsoft PowerPoint
  - 7677 Spring 2002 Teacher Rating of 4.20 on a 5.0 scale

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## **CURICULUUM DEVELOPMENT**

### **Iona College**

#### *Undergraduate*

- Network Construction
  - A hands-on course where students are tasked with constructing a non-trivial computer network from the ground up. Theory is blended with practice and students will gain experience in network design, construction, troubleshooting and diagnostics.
- Computer Security
  - With the ever increasing reliance on networked computer systems, properly securing those systems from physical, domestic and global threats becomes paramount. While systems in the industries of finance/banking, transportation, utilities and government services are high value targets, any compromised system can be used as a platform of attack. Threats to computer security can come from a myriad of vectors, including penetration testing, WiFi, DNS poisoning, DDOS, social engineering, using exploits and even cyber-warfare. This class will teach the student how to properly design system installations and effectively use security auditing tools to reduce an organization's risk.

#### *Graduate*

- IT in Infrastructure
  - With an ageing national infrastructure, we examine ways in which Information Systems can be used to develop, maintain and improve our existing transportation, telecommunication and energy needs. With many of these systems becoming more complex and inter-dependent, it is important to identify the potential roles that Information Systems may play in maximizing solutions and opportunities while minimizing situations where the introduction of Information Systems may cause unintended consequences.
- Quantitative Investing
  - This course provides an overview of Information System-based financial transaction systems and their role in portfolio selection for the Financial Sector. Topics include portfolio selection, rebalancing and performance monitoring from the standpoint of artificial intelligence learning techniques. This course covers stock selection/filtering, building robust scalable models, identifying statistical deviations, arbitrage market theories, managing risk and measuring the performance of various quant models.

- Telecommunications
  - This course provides a systems view of computer networking and telecommunications. Topics include voice and data communications, networking protocols, IP telephony, wireless and mobile networks, networking security and management. The course also covers networking and telecommunication techniques, applications technology, networking topologies and architectures. Specific areas discussed include LAN system fundamentals, such as Ethernet and token ring, WAN system fundamentals, such as circuit-switching, packet-switching, X.25, frame relay and Asynchronous Transfer Mode.

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## TEXTBOOKS REVIEWED

- (1) Haag, S. and Perry, J. I-Series: Microsoft Office Access 2003 Complete. McGraw-Hill/Irwin, 2003.
- (2) Haag, S. and Perry, J. I-Series: Microsoft Office Excel 2003 Complete. McGraw-Hill/Irwin, 2003.

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## CONTINUED STUDY

### Post Baccalaureate

*Spring 2003 – University of Akron*

- ◆ 3460:460 Artificial Intelligence and Heuristic Programming

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## INDUSTRY EXPERIENCE

### President, 2008 – Present

*The Schumaker Foundation Inc. – [www.schumakerfoundation.com](http://www.schumakerfoundation.com)*

- ◆ The Schumaker Foundation Inc. is a 501(c)(3) public non-profit charity that is dedicated to providing financial scholarships to exceptional students in both Divinity and Information Systems fields.
  - Organized, founded and brought forth a new avenue of assistance to serve a demographic subset that is not typically served
  - Responsible for all aspects of the Foundation's business
    - Incorporation, taxation, day to day activities, strategic vision, website design and maintenance, presiding over board meetings, etc.

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### Director of the IS Dept. Computer Lab, September 2007 – August 2010

*Information Systems Dept., Iona College*

- ◆ Initiated and implemented a student assistant training program to handle daily operations
- ◆ Modernized an aging facility with state of the art computers, servers and networking equipment
- ◆ Instrumental for creating student and faculty demand for the lab

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**Computer Lab Manager, January 2001 – March 2002**

*CBA Computer Labs, Univ. of Akron*

- ◆ Instrumental in modernizing operations by embracing the complete paperless office concept
- ◆ Created a networked scheduling program to handle the student demand for lab equipment
- ◆ Raised efficiencies by developing models to provide instant data on all aspects of operations
- ◆ Initiated and implemented an online student assistant training program with hands-on objectives

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**Interim Director of Technology, August 2000 – January 2001**

*CBA Computer Labs, Univ. of Akron*

- ◆ Responsible for the overall development and technology needs of the college
- ◆ Assertively trained Lab Assistants to handle incredibly complex computer-related problems
- ◆ Took an aggressive initiative in replacing 1/3 of the lab computers and servers
- ◆ Handled daily operations and set into motion a long term strategic plan addressing future needs

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**Vice President, 1997 – 1999**

*Schumaker Hardware, Baltic, Ohio*

- ◆ Responsible for day to day operations across all facets of operation
- ◆ Integral in expanding physical store selling area by 150%
- ◆ Wrote a neural network algorithm to analyze and predict sales given historical knowledge
- ◆ Created an inventory control program that reduced inventory counts from weeks to days

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**TECHNICAL SKILLS**

- ◆ Java, JSP development
- ◆ Have actively taught Visual Basic
- ◆ Have actively taught expert levels of MS Office
- ◆ Have a home network that rivals not small, but mid-sized businesses for its capacity
- ◆ Host and maintain several Internet Web domains
- ◆ Have extensive experience maintaining large arrays of personal computers
- ◆ Skillful in computer security lockdowns, monitoring and maintenance capability
- ◆ SQL Server
- ◆ Apache Tomcat

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**AWARDS AND HONORS**

- ◆ CELTIC Excellence in Teaching Award, 2009
- ◆ Nominated for the GPSC Outstanding Research Assistant of the Year, 2005, 2007
- ◆ GRS Scholarship – University of Arizona, Spring 2005 – 2007
- ◆ Nominated for the James LaSalle Teaching Award, 2004, 2006
- ◆ Tuition Scholarship recipient – University of Arizona, 2003 – 2007
- ◆ Graduate Assistantship – University of Arizona, 2003 – 2007
- ◆ Tuition Scholarship recipient – University of Akron, 2000 – 2001

- ◆ Graduate Assistantship – University of Akron, 1999 – 2000
- ◆ Partial Scholarship recipient – University of Cincinnati
- ◆ Induction into Sigma Iota Epsilon, Honorary Management Fraternity
- ◆ Consistently receive outstanding Instructor ratings on Student Evaluations

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## MISCELLANEOUS PROFESSIONAL SERVICE

- ◆ SABR Statistical Analysis Committee Member, 2007 – Present
- ◆ ICIS Volunteer, 2005
- ◆ JCDL Director of Onsite Registration Activities, 2004
- ◆ ISI Volunteer, 2004

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## COLLEGIATE SERVICE

- ◆ Iona College Library Committee Member, 2008 – 2010
- ◆ Iona College Institutional Review Board Member, 2009 – 2010
- ◆ Iona College Presidential/Dean's Scholarship Interviewer, 2008, 2009
- ◆ Hagan School of Business Strategic Vision Committee Member, 2009 – 2010
- ◆ Hagan School of Business Curriculum Committee Member, 2009 – 2010
- ◆ Hagan School of Business Freshman Advisor, 2007 – 2010
- ◆ IS Dept. AACSB Self-Study Committee Chair, 2008 – 2009
- ◆ IS Dept. Liaison for Campus Day for Accepted Students, 2009
- ◆ IS Dept. Textbook Selection Committee, 2008 – 2010
- ◆ IS Dept. Director of the IS Computer Lab, 2007 – 2010
- ◆ AI Lab Recruiting Leader, 2004 – 2007
- ◆ AI Lab PhD Seminar Coordinator, 2004 – 2006
- ◆ Eller College Admissions Interviewer, 2006, 2007
- ◆ Graduate and Professional Student Council Representative, 2006 – 2007
- ◆ Graduate and Professional Student Council, Travel Grant Judge, 2006
- ◆ MISA Test Review Volunteer Instructor, 2004 – 2005
- ◆ Graduation Marshall for the Faculty, 2002 – 2003
- ◆ University of Akron Scholarship Interviewer, 2003
- ◆ Quasi-Academic Advisor for SITE Student Group, 2002 – 2003
- ◆ CBA Computer Operations Committee, 2000 – 2001

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## COMMUNITY SERVICE

- ◆ The Schumaker Foundation Inc. – Board of Governor's, 2008 – Present
- ◆ Adopt-A-Spot Volunteer – Derby, CT, 2008 – 2010
- ◆ American Red Cross – VIP Blood Donor
- ◆ Habitat for Humanity Volunteer
- ◆ ΦKT - Star Link of charitable giving
- ◆ Big Brothers/Big Sisters Volunteer, 2000 – 2003
- ◆ ΦKT Board of Governor's, ΑΦ Chapter, 1999 – 2003

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## REFERENCES

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