

## VITAE

### Michael R. Scheessele, PhD, CIP

#### **University Address:**

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Indiana University South Bend  
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#### **Education:**

- Ph.D. (Quantitative & Mathematical Psychology) Purdue University, West Lafayette IN, 2001.  
M.S. (Quantitative & Mathematical Psychology) Purdue University, West Lafayette IN, 1998.  
Specialization: Computational Science.  
M.S. (Computer Science) DePaul University, Chicago IL, 1994.  
Specialization: Artificial Intelligence.  
B.S. (Computer Science) Purdue University, West Lafayette IN, 1983.  
Specialization: Information Systems.

#### **Professional Experience – Academic:**

**08/2001 - Present** Associate Professor of Computer Science and Psychology, Indiana University South Bend. (Tenure received – April 2007. **Joint appointment with the Psychology Department since October 2007.**)

Courses taught:

- Introduction to Informatics (INFO I101)
- Introduction to Computing (CSCI A106)
- Introduction to Programming I - Visual Basic .Net (CSCI A201)
- Computer Programming I (CSCI C101/INFO I210)
- Computer Programming II (CSCI C201/INFO I211)
- Introduction to Data Structures (CSCI C243)
- Discrete Structures (CSCI C250)
- Foundations of Digital Computing (CSCI C251)
- Human-Computer Interaction (INFO I300)
- Artificial Intelligence/Elements of Artificial Intelligence (CSCI C463/B551)
- Computer Vision (CSCI C490/B657)
- MLS Science Seminar: Tracking the elusive mind: an introduction to Cognitive Science (MLS D503)
- MLS Science Seminar: Codemakers and Codebreakers (MLS D503)
- MLS Science Seminar: Machine Ethics (MLS D503)
- Sensation and Perception (PSY P329)
- How the Mind Works: Explorations in Cognitive Science (COGS B190)
- Fundamentals of Computing Theory (CSCI B401)

### **Professional Experience – Industry:**

- 05/99-** IDX Systems Corporation. Chicago IL.
- 04/2001:** Type of firm: Healthcare information systems and services vendor.  
Position: Lead Software Engineer.
- 1995-1999:** IDX Systems Corporation. Chicago IL.  
Position: Contract Programmer (periodically).
- 10/84-08/94:** IDX Systems Corporation. Boston MA and Chicago IL.  
Final position held: Senior Software Engineer.
- 06/83-09/84:** Data Solutions Inc. Bloomington IN.  
Type of firm: Insurance information systems vendor.  
Position: Programmer/Analyst.

### **Grants:**

#### **Faculty Research Grant:**

**(March 2018):** Indiana University South Bend Faculty Research Grant for **\$8,500.00** for the project: “Anthropocentrism is defensible in determining the moral status of intelligent machines.”

#### **Supplemental Travel Grant:**

**(February 2018):** **\$1,000** to present my paper, **A framework for grounding the moral status of intelligent machines.** Artificial Intelligence, Ethics, and Society (AIES) 2018, New Orleans, LA. Feb. 2-3, 2018.

#### **New Frontiers for the Arts & Humanities:**

**(January 2017):** New Frontiers Experimentation Fellowship for **\$14,988.00** for the project: “Could we have moral obligations to ‘intelligent’ machines?”

#### **Teaching with Technology SEED Grant:**

**(April 2016):** Received an **Emotiv Insight headset with EEG and accessories (\$808.90)** for creating classroom demos involving a **brain-computer interface (BCI)** and for BCI-related student research projects.

#### **Faculty Research Grant:**

**(November 2007):** Indiana University South Bend Faculty Research Grant for **\$8,000.00** to further develop the project: “Modification and Validation of a Test of Human Insight Problem Solving.”

#### **Overseas Conference Fund Travel Grant:**

**(May 2006):** Received **700.00** to participate in the Oxford Round Table at Oxford University in July 2006.

#### **Exploration Traveling Fellowship Grant (Lilly-sponsored New Frontiers Program):**

**(March 2006):** Received **2,500.00** to participate in the Oxford Round Table at Oxford University in July 2006.

**Faculty Research Grant:**

(November 2005): Indiana University South Bend Faculty Research Grant for \$3,505.00 to further develop the project: “Role of Non-Targets in Perception of a Target in Visual Search.”

**Curriculum Development Grant:**

(April 2004): Indiana University South Bend Curriculum Development Grant for \$3,000.00 to develop a new-to-IUSB course: B657 – Computer Vision.

**Faculty Research Grant:**

(April 2002): Indiana University South Bend Faculty Research Grant for \$8,000.00 to further develop the project: “A Computational Model of the Perception of Partially Occluded and Fragmented Figures.”

**SMART Summer Fellowship:**

(Summer 2020):

Mentor to Ben Bavar (student) who received a \$3400 SMART Summer Fellowship for **Testing Intuitions about Blaming Robots**

**SMART Travel Grant:**

(February 2004):

Association for Computing Machinery (ACM) students received travel grant to compete in Rube Goldberg Contest at Purdue University in West Lafayette, IN on February 28<sup>th</sup>, 2004.

**SMART Travel Grant:**

(March 2003):

Thomas Perez (student) received travel grant to present research at the Vision Sciences Society (VSS) Annual Meeting in Sarasota, FL. in May '03.

**Refereed Journal Articles:**

Scheessele, M.R. (2021). The hard limit on human nonanthropocentrism. *AI & Society*.  
<https://doi.org/10.1007/s00146-021-01182-4>.

Scheessele, M. R., Dinh, H., & Ananth, M. (2015). On adding a critical thinking module to a discrete structures course. *The Journal of Computing Sciences in Colleges*, 30 (6), 97-103.

Ananth, M., & Scheessele, M. R. (2012). Exempting all minimal-risk research from IRB review: pruning or poisoning the regulatory tree? *IRB: Ethics & Human Research*, 34 (2), 9-14.

Scheessele, M.R., & Chaaban, I. (2008). Spatiotemporal context influences perception of an ambiguous target in visual search. *Perception & Psychophysics*, 70 (2), 190-198.

Scheessele, M. R., & Pizlo, Z. (2007). Does contour classification precede contour grouping in perception of partially visible figures? *Perception*, 36, 558-580.

**Scheessele, M.R.** (2007). The Two Cultures: a zero-sum game? *Forum on Public Policy Online, Winter 2007 edition*.  
<http://www.forumonpublicpolicy.com/archive07/scheesele.pdf>

**Refereed Conference Proceedings:**

**Scheessele, M.R.** (2018). A Framework for Grounding the Moral Status of Intelligent Machines. In Proceedings of 2018 AAAI/ACM Conference on AI, Ethics, and Society (AIES'18), February 2-3, 2018, New Orleans, LA, USA. ACM, New York, NY, USA. <https://doi.org/10.1145/3278721.3278743>

Chaaban, I. Y., & **Scheessele, M. R.** (2009). Exploitation of domain knowledge in the recognition of handwritten ZIP codes. *Proceedings of the twentieth Midwest Artificial Intelligence and Cognitive Science conference, Indiana University-Purdue University Fort Wayne, Fort Wayne, IN, 20*, 66-73.

**Scheessele, M. R.,** & Schriefer, T. (2006). Poker as a group project for Artificial Intelligence. *Proceedings of the thirty-seventh SIGCSE technical symposium on Computer Science Education, Houston, TX, 37*, 548-552.

**Scheessele, M. R.,** & Perez, T. M. (2005). 'Bottom-up' cues aid perception of ambiguous, partially visible figures. *Proceedings of the sixteenth Midwest Artificial Intelligence and Cognitive Science conference, University of Dayton, Dayton, OH, 16*, 83-90.

**Publications (invited):**

**Scheessele, M. R.** (2010). CS expertise for Institutional Review Boards [Letter to the editor]. *Communications of the ACM, 53* (8), 7.

**Scheessele, M. R.** (2003). A vision of interdisciplinary research. *APS Observer, 16* (7), 19.

Pizlo, Z., & **Scheessele, M. R.** (1998). Perception of 3D scenes from pictures. *Proceedings of the SPIE conference, San Jose, CA, 3299*. 410-423.

**Scheessele, M. R.,** Graham, S. M., & Pizlo, Z. (1996). The exponential pyramid as a model of the human visual system. *Proceedings of the ninth workshop on image and multidimensional signal processing, IEEE Signal Processing Society and IS&T The Society of Imaging Science and Technology, Belize City, Belize*. 108-109.

**Abstracts:**

Kwon, T., Li, Y., **Scheessele, M.,** Michaux, A., & Pizlo, Z. (2014). Spatially-global interpolation of closed curves. [Abstract]. *Journal of Vision, 14*(10), 68,  
<http://www.journalofvision.org/content/14/10/68> ,doi: 10.1167/14.10.68.

**Scheessele, M. R.** (2006). Is perception of a degraded figure resistant to spatial context at short exposure? [Abstract]. *Journal of Vision, 6*(6), 762a,  
<http://journalofvision.org/6/6/762/>, doi:10.1167/6.6.762.

- Scheessele, M. R.,** Guthrie, D. T., & Gottschalk, D. R. (2005). Role of non-targets in detection of a target in visual search [Abstract]. *Journal of Vision*, 5(8), 345a, <http://journalofvision.org/5/8/345/>, doi:10.1167/5.8.345.
- Scheessele, M. R.** (2004). How much ground influences perception of degraded figures? [Abstract]. *Journal of Vision*, 4(8), 720a, <http://journalofvision.org/4/8/720/>, doi:10.1167/4.8.720.
- Scheessele, M.R.,** & Perez, T.M. (2003). Effect of region information on perception of partially occluded figures [Abstract]. *Journal of Vision*, 3(9), 244a, <http://journalofvision.org/3/9/244/>, doi:10.1167/3.9.244.
- Scheessele, M.R.,** & Pizlo, Z. (2002). A computational model of the perception of partially occluded figures [Abstract]. *Journal of Vision*. 2(7), 82a, <http://journalofvision.org/2/7/82/>, DOI 10.1167/2.7.82.
- Scheessele, M.R.,** & Pizlo, Z. (2002). A pyramid model of the perception of partially visible figures [Member Abstract]. *Proceedings of the twenty-fourth annual conference of the Cognitive Science Society, Fairfax, VA, 24*, 1037.
- Scheessele, M. R.,** & Pizlo, Z. (1998). The role of top-down information in figure-ground segregation [Abstract]. *Investigative Ophthalmology & Visual Science*, 39, (4). S849.
- Scheessele, M. R.,** & Pizlo, Z. (1997). Perception of fragmented figures [Abstract]. *Investigative Ophthalmology & Visual Science*, 38, (4). S641.
- Oliver, J. S., **Scheessele, M. R.,** & Pizlo, Z. (1996). Kinetic-Depth-Effect in the presence of noise and nonrigidity [Abstract]. *Investigative Ophthalmology & Visual Science*, 37, (3). S172.
- Pizlo, Z., **Scheessele, M. R.,** Chan, M. W., Loubier, K. A., & Chelberg, D. M. (1996). Shape-from-depth vs shape-from-shape [Abstract]. *Investigative Ophthalmology & Visual Science*, 37, (3). S171.
- Pizlo, Z., & **Scheessele, M. R.** (1995). Shape constancy in binocular and active vision [Abstract]. *Investigative Ophthalmology & Visual Science*, 36, (4). S360.
- Technical Reports:**
- Scheessele, M.R.** (2017). *Compound Remote Associate Problems and Insight Research: A Questionable Assumption* (Tech. Rep. No. **TR-20170302-1**). South Bend, IN: Indiana University South Bend, Department of Computer and Information Sciences.
- Chaaban, I., & **Scheessele, M.R.** (2008). *Human performance in Recognition of Handwritten ZIP Codes from the CEDAR Database* (Tech. Rep. No. [TR-20080805-1](#)). South Bend, IN: Indiana University South Bend, Department of Computer and Information Sciences.

Chaaban, I., & Scheessele, M.R. (2007). *Human performance on the USPS database* (Tech. Rep. No. [TR-20070619-1](#)). South Bend, IN: Indiana University South Bend, Department of Computer and Information Sciences.

Scheessele, M.R., & Pizlo, Z. (2003). *An exponential pyramid-based model of contour classification in figure-ground segregation* (Tech. Rep. No. TR-20031222-1). South Bend, IN: Indiana University South Bend, Department of Computer and Information Sciences.

#### **PhD Dissertation Committee Member:**

- Tae Kyu Kwon (Purdue University) **Thesis:** Spatially-global interpolation of closed curves. **Defended: July 2015.**

#### **Masters Theses Directed:**

(Applied Mathematics and Computer Science program)

- Ibrahim Chaaban **Thesis:** Applying domain knowledge to the recognition of handwritten ZIP codes. **Defended: Spring 2007.**
- Robert Batzinger **Thesis:** Development of a web-based service to transcribe between multiple orthographies of the Iu Mien language. **Defended: Fall 2012.**

#### **Masters Theses Committee Member:**

(Applied Mathematics and Computer Science program)

- Yuri Vanzine **Thesis:** Real-time volumetric rendering of fire in a production system: feasibility study. **Defended: Fall 2007.**
- Truong Quoc Hung **Thesis:** IU-ADVISE: a web based advising tool for academic advisors and students. **Defended: Spring 2009.**
- Yared Tebeje **Thesis:** European call option: pricing under pressure. **Defended: Fall 2011.**
- Jeyan D. Oorjitham **Thesis:** Estimating equations for evaluating trading algorithms. **Defended: Spring 2017.**

#### **Advisor for Undergraduate Publications/Presentations:**

- Donovan, J. (2010). Visual perception in humans and jumping spiders: a comparative study. *IUSB Undergraduate Research Journal*, 10, 13-17.

#### **Advisor for Graduate Publications/Presentations:**

- Reign, M. (2012). Subliminal steganography. Presented at *IUSB Graduate Conference*.

#### **Service – Indiana University South Bend:**

University

- (2017-2019) Human Research Protection Program (HRPP) Advisory Committee

Campus

- (2004-2014) IRB member

**Chair 07/01/08-06/30/14**

- (2017-2021) Senate Facilities Management Committee  
**Chair 2019-20, 2020-21 Academic Years**
- (2019-2021) Northside Hall Task Force  
**Co-chair 2019-2021**
- (2020-2021) Facilities Restart Committee
- (2020-2021) Strategic Planning Goal #2 Committee

College of Liberal Arts and Sciences

- (2001-present) Cognitive Science Committee  
**Chair Fall 2002-Fall 2005**  
**Fall 2010-Fall 2011, Spring 2016**
- (2006-present) Graduate Liberal Studies faculty member
- (2006-2007) Curriculum Committee
- (2002-2004) Master of Liberal Studies Committee
- (2005) New Student Orientations (August, December)
- (2005) Search and Screen for Social Informatics Professor
- (2004) Search and Screen for Experimental Psychology Professor

Department of Computer and Information Sciences

- (2003-present) Intelligent Systems Laboratory
- (2010-2011) Sub-committee to re-design CS theory course(s)
- (2001-2007) Faculty advisor for student chapter of the ACM
- (2005-2007) Graduate Affairs Committee
- (2005-2007, 2016-2021) Graduate AMCS Interdepartmental Committee
- (2003-2007) Search and Screen for CS/Informatics Professors
- (2005-2006) John P. Russo Scholarship Committee
- (2016-2017) Russo-Knight Scholarship Committee
- (2017-2019) Informatics Scholarship Committee
- (2004-2005) Informatics Committee
- (2001-2004) Laboratory Committee
- (2003-2004) Research Committee
- (2001-2002) External Affairs Committee

**Service – Professional:**

- (2021-present) Editorial Board member for the International Journal of Online and Biomedical Engineering (iJOE)

**Membership in Professional Associations:**

- Association for Computing Machinery (ACM)
- ACM SIGART (special interest group – Artificial Intelligence)
- ACM SIGCSE (special interest group – Computer Science Education)
- Cognitive Science Society (CSS)
- Association for Psychological Science (APS)
- Public Responsibility in Medicine and Research (PRIM&R)
- **Certified IRB Professional (CIP) since November 2010.**