

## ***Magy Seif El-Nasr***

Computer Science Department  
Northwestern University  
1890 Maple Avenue  
Evanston, IL 60201

www.cs.northwestern.edu/~magy  
Tel: (847) 372-4489 (cell)  
Tel: (847) 467-1969 (Office)

## **RESEARCH INTEREST**

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My research focuses on building computational models to facilitate and accelerate the process of visual design in interactive narratives, including games, interactive drama, and interactive stories. This field spans many areas in both computer science, psycho-physics, and the performance arts, including computer graphics, visual perception, Artificial Intelligence, agents research, systems, drama, acting, lighting, photography, camera movements and framing, and directing.

The problem of visually presenting an interactive scene is an important and complex problem. Visual presentation is important because the composition of camera angles, lighting, and placements of objects impact certain perceptual properties, which acquire narrative functions, such as visual attention, visual tension, and perceptual depth. Visually presenting an interactive scene, however, is a very complex and daunting problem, because many design details, including character positions and the dramatic significance of an event, are not known at design time. My research addresses this problem by devising computational models based on visual perception and cinematic and theatrical design theories to automate the process while allowing artists to guide the model's decisions whenever necessary.

I am interested in continuing my work and explore several topics, including gestures and communication, character motion and behaviors, frame composition, character blocking, and camera movement. In addition, I would like to explore the influence and utility of such expressive techniques on the interaction within an interactive scene.

## **EDUCATION**

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### **Ph.D. Computer Science, in progress**

Northwestern University

*ELE – Expressive Lighting Engine for Automating Lighting Design for Interactive Narrative*

Prof. Ian Horswill, advisor

### **M.S. Computer Science, June 1998**

Texas A&M University

*Modeling Emotion Dynamics in Intelligent Agents*

Prof. John Yen, advisor

### **B.S. Computer Science, June 1995**

American University in Cairo

*BSD-based virtual file system*

Prof. Amr El-Kadi, advisor

## **PROFESSIONAL EXPERIENCE**

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### **Producer/Director/Programmer, Northwestern University, 2001 - present**

Producing an interactive drama experience funded by the Center for Interdisciplinary Arts Research (CIRA). Working as:

- Producer: Composing a team consisting of a writer, a modeler, an animator, a cinematographer, a sound designer, four voice actors together, and a composer. Organizing the work, communicating the vision, and engaging in production management.
- Director: working from an art concept to the final product

- Programmer: programming character behaviors and animations, camera motions, and lighting. Building a goal-based narrative engine.

**Instructor, Northwestern University, Fall 2002**

Operating Systems CS 343 team-taught with Fabián Bustamante (Assistant Professor, Computer Science Department)

**Teaching, Northwestern University, Spring 2002**

Interactive Narrative CAT 380 team-taught with Mary Poole (Lecturer, Theatre Department)

**Teaching Assistant, Northwestern University, 2000-2002**

Courses: CS370 – Computer Game Design with Prof. Ken Forbus, CS343 – Operating Systems with Prof. Jennifer Schopf

**Research Assistant, Northwestern University, 1999 - present**

**Software Engineer -Analyst and Designer, Texas A&M University, summer 1999**

Designed and developed a new electronic accounting system for the computer science department.

**Assistant Lecturer, Texas A&M University, Summer 1998 and Summer 1999**

Courses Taught: CPSC411 – Operating Systems, CPSC325 – Artificial Intelligence

**Teaching Assistant, Texas A&M University, 1997 – 1998**

Courses: CPSC411 – Operating Systems with Prof. Riccardo Batatti, CPSC325 – Artificial Intelligence with Prof. Bruce McCormic

**Graphic Designer/ Sound Editor, Cairo, Egypt, 1995 - 1996**

Worked as a graphic designer for an advertisement company. Created animated characters for 2-3 minute advertisements, edited advertisement clips, and added and edited sound content.

**Teacher, Cairo, Egypt, 1995 - 1996**

**AWARDS/GRANTS**

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- **Research Grant**, CIRA (Center for Interdisciplinary Arts Research), 2001
- **Best Student Paper Award**, ACM, Autonomous Agents Conference, 1999
- **Research Excellence Award**, Computer Science Department, Texas A&M University, 1999
- **Award of Excellence**, Graduate Student Council, Texas A&M University, 1998
- **Leadership Award**, Computer Science Department, Texas A&M University, 1999

## PUBLICATIONS

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### Refereed Journal Papers

Magy Seif El-Nasr, John Yen, and Thomas R. Ioerger. FLAME - Fuzzy Logic Adaptive Model of Emotions. *Autonomous Agents and Multi-Agent Systems*, vol. 3, pp. 219-257, 2000.

### Refereed Conference/Workshop Papers

Magy Seif El-Nasr. Expressive Lighting for Interactive Entertainment. *IEEE International Conference on Multimedia and Expo – Special Session on Multimedia Technologies for Gaming*, 2003.

Magy Seif El-Nasr. Story Visualization Techniques for Interactive Drama. *Working notes of AAAI Spring Symposium*, CA, 2002.

Magy Seif El-Nasr, T. Ioerger, and J. Yen. PETEEI: A PET with Evolving Emotional Intelligence. *Proc. of Autonomous Agents '99*, WA, 1999.

Magy Seif El-Nasr, T. Ioerger, J. Yen, D. House, and F. Parke. Emotionally Expressive Agents. *Proc. of Computer Animation '99*, Geneva, Switzerland, 1999.

Magy Seif El-Nasr, Thomas R. Ioerger, and John Yen. A web of Emotions. *Proc. of Workshop on Emotion-based Agent Architectures, International Conference on Autonomous Agents '99*, 1999.

Magy Seif El-Nasr, T. Ioerger, and J. Yen. Learning and Emotional Intelligence in Agents. *Working notes of AAAI fall symposium on Emotional Intelligence*, FL, 1998.

Magy Seif El-Nasr and M. Skubic. A Fuzzy Emotional Agent for Decision-Making in a Mobil Robot. *Proc. of Fuzz-IEEE 98*, 1998.

Magy Seif El-Nasr and John Yen. Agents, Emotional Intelligence and Fuzzy Logic. *Proc. of the 17th Annual Meeting of the North American Fuzzy Information*, 1998.

Jianwen Yin, Magy Seif El-Nasr, lunyu Yang, and John Yen. Incorporating Personality into a Multi-Agent Intelligent System for Training Teachers. *Proc. of The Fourth International Conference on Intelligent Tutoring Systems*, 1998.

Dwi Hendratmo Widyantoro, Jianwen Yin, Magy Seif El-Nasr, Lyyang Wang, Anaa Zacchia, and J. Yen. Alipes: A Swift Messenger in Cyberspace. *Working notes of AAAI Spring Symposium*, CA, 1999.

### Other Publications

Magy Seif El-Nasr. *Modeling Emotion Dynamics in Intelligent Agents*, Master's Thesis, Computer Science Department, Texas A&M University, 1998. (Master's thesis)

### In Preparation

Magy Seif El-Nasr and Ian Horswill. Automating Lighting Design for Interactive Narrative. (to be submitted to *Siggraph 2003*)

Magy Seif El-Nasr. ELE (Expressive Lighting Engine) for Interactive Narrative. (to be submitted to *Multimedia Systems*).

## SOCIAL/COMMUNITY ACTIVITIES

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- **Co-Chair** of AAAI Spring Symposium 2002 on AI and Interactive Entertainment
- **On Editorial Board**, International Journal on Intelligent Games and Simulation.

- **Paper reviewer**, The World Multiconference on Systemics, Cybernetics, and Informatics 2003, 2002, and 2001
- **Communication Officer**, Graduate student Council, Texas A&M University (1997-1999)
- **President**, Computer Science Graduate Student Association, Texas A&M University (1997-1998)
- **Communication Officer**, Aggie Women in Computer Science (AWICS) (1996-1998)
- **Member of IGDA (International Game Developers Association)**
- **Member of AAAI (American Association for Artificial Intelligence)**

## REFERENCES

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### **Ian Horswill**

Associate Professor, Computer Science Department, Northwestern University  
 1890 Maple Avenue, Evanston, IL 60201  
 Email: [ian@cs.northwestern.edu](mailto:ian@cs.northwestern.edu)

### **Ben Watson**

Assistant Professor, Computer Science Department, Northwestern University  
 1890 Maple Avenue, Evanston, IL 60201  
 Email: [watson@cs.northwestern.edu](mailto:watson@cs.northwestern.edu)

### **Fabián Bustamante**

Assistant Professor, Computer Science Department, Northwestern University  
 1890 Maple Avenue, Evanston, IL 60201  
 Email: [fabianb@cs.northwestern.edu](mailto:fabianb@cs.northwestern.edu)

### **Mary Poole**

Theatre Department, Northwestern University  
 Email: [m-poole@northwestern.edu](mailto:m-poole@northwestern.edu)

### **Annette Barbier**

Associate Professor, Radio/TV/Film Department, Northwestern University  
 Email: [abarbier@northwestern.edu](mailto:abarbier@northwestern.edu)

### **Ken Forbus**

Professor, Computer Science Department, Northwestern University  
 1890 Maple Avenue, Evanston, IL 60201  
 Email: [forbus@northwestern.edu](mailto:forbus@northwestern.edu)

### **Andrew Ortony**

Professor, Computer Science Department, Northwestern University  
 1890 Maple Avenue, Evanston, IL 60201  
 Email: [ortony@cs.northwestern.edu](mailto:ortony@cs.northwestern.edu)