

Christopher S. Furmanski

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Overview

Education: Ph.D. Cognitive Psychology, UCLA, 2001.

Current Employment: Associate Research Scientist HRL Laboratories, Malibu, CA. [telecommuting]

Expertise: Empirical research, experimental design, usability testing, and rapid visualization.

Salary Requirements: > \$100,000/yr + benefits; \$75/hr for contract work.

Objective

I am looking for a project management or senior research position that will allow me to lead a multidisciplinary team in the areas of Usability testing, Information Architecture, Interface Design, and/or Informatics. On the most general level, my interests focus on human-centered systems and dynamic informatics-- that is, I'm interested in how human operators can more efficiently and effectively interact with machines, and how those interactions can change over time. I am probably best described as a generalist, with academic and professional experience in human-centered system design, empirical user studies, cognitive psychology/neuroscience, virtual- and augmented-reality multimodal interaction systems, and the development of artificial cognitive agents. I have led and participated in several Research & Development teams that have designed, developed, and tested a range of civilian and defense applications for companies such as General Motors, Boeing, and Raytheon. I have also designed and performed usability tests for web-based collaboration tools under contract with the Department of Defense, and am Principal Investigator on an ongoing research project to design improved interaction systems for unmanned vehicles. I have excellent communication skills, including technical writing (published several peer-reviewed academic and professional research papers), visual-presentation (generated marketing, project proposal and review slide presentations), and spoken communication (given more than 5 invited talks as well as over 10 conference presentations). I have also written many successful research proposals and white papers, having personally secured extra-mural research funding in excess of \$400,000 for both fiscal years 2002 and 2003. I have led diverse teams of CS programmers, MA and PhD students across a range of disciplines, and EE & ME engineers, as well as performed the gamut of managerial tasks including planning team budgets, work schedules, and writing project proposals and reports for customers and upper management.

Education

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| Ph.D., Cognitive Psychology UCLA, Los Angeles, CA | 1995-2001 |
| <i>Thesis:</i> Studied neural and behavioral effects of how people improve on visual tasks with practice. | |
| <i>Title:</i> Characterization of orientation sensitivity in the human visual system. | |
| M.A., Psychology UCLA | 1995-1996 |
| <i>Thesis:</i> Studied training-induced improvements when people view rapidly presented images on computer displays. | |
| <i>Title:</i> Perceptual learning during object recognition. | |
| B.S., Psychobiology UCLA | 1990-1994 |

Skill Set

Core Competencies

- Experimental design and usability testing
- Technical, science, and lay-English writing
- Data analysis & statistics
- Rapid visualization and low-fidelity play testing
- Small team (2-8 people) management

Computer Skills

- Adobe Suite (Photoshop, Illustrator, Acrobat)
- Macromedia Web Studio (Dreamweaver, Fireworks, Freehand)
- 3DStudio Max
- Microsoft Office
- MATLAB, language for Technical Computing
- Multi-platform proficiency: UNIX, Windows NT, Mac 9/X, Linux

Work Experience

- Associate Scientist** HRL Laboratories (formerly Hughes Research), Malibu, CA 2000-present
- Researcher in Human-Centered Systems of Information-Science Lab
 - Designed, performed, and reported usability evaluation for proprietary web-tracking software as part of DoD/DARPA funded Human-Computer Symbiotics Consortium for Intelligent Collaboration and Visualization program.
 - Principal Investigator (PI) for development and testing of novel human-computer interfaces for multi-dimensional air-traffic controller displays for Raytheon.
 - PI & managed a team (6 people) developing and testing novel tools to improve interaction with vehicle control systems (towards improving situational awareness).
 - Generated a new line of experimental research on next-generation uses of Augmented Reality interfaces, and published results (ISMAR2002, Germany).
 - Acquired >\$400,000 external research funds for FY2002&2003 from corporate owners: Raytheon, General Motors, & Boeing.
- Graduate & Postdoctoral Fellow** UCLA – <http://rocky.psych.ucl.a.edu/furmanski> 1995-2002
- Acquired mastery of experimental design and perceptual-testing methods.
 - Managed a research laboratory of 6 graduate students, programmers, and analysts.
 - Taught lecture and lab courses on experimental design, and lecture sections on Cog. Psych.
 - Was awarded multiple university-wide fellowships based on research and academic success.
 - Used Fourier-based techniques for analyzing and displaying multi-gigabyte data sets.
 - Acted as system administrator for UNIX-based DEC and Windows-NT workstations.
 - Published 6 peer-reviewed articles, presented 6 invited-talks and 12 conference presentations.
- Website Designer** UCLA Brain Mapping Division - <http://www.brainmapping.org> 1996
- Created an Internet and intra-net website for a medical-imaging research group.
 - Received a *Times Pick Award* from the Los Angeles Times for website excellence.
- Research Assistant** Stanford University, Palo Alto, CA 1995
- Designed a high-level computer language for performing neuroscience experiments.
 - Generated analytical procedures for improving computer image quality.
 - Performed experiments to look for brain areas responsible for processing object identification.
- Computer Programmer** Harvard University, Cambridge, MA 1994-1995
- Invented algorithms for isolating faces in real-world images.
 - Published a peer-reviewed article on the behavioral and neural mechanisms responsible for reading briefly presented text.

Selected Honors & Awards

Academic Awards

- UCLA Dissertation Award, Graduate-Division, UCLA (Department rank: 1) 2000-2001
- Office of the President Research-Mentor Fellowship, Graduate Division, UCLA 1998-1999
- University Fellowship, College of Letters and Science, UCLA 1995-1996

Professional Awards

- Received a *Times Pick Award* from the Los Angeles Times for website excellence 1996

Selected Publications

Professional Papers

- **Furmanski, C**, Azuma, R, and Daily, M (2002). Augmented-reality visualizations guided by cognition: Perceptual heuristics for combining visible and invisible information. *Proceedings of the International Symposium on Mixed and Augmented Reality*. IEEE Computer Society Press.

Academic Papers

- Engel, SA and **Furmanski, CS** (2001). Selective adaptation to color contrast in human primary visual cortex. *Journal of Neuroscience*, 21(11), p. 3949-3954.
- **Furmanski, CS** and Engel, SA (2000). Perceptual learning in object recognition: Object specificity and size invariance. *Vision Research*. 40(5), p. 473-484.
- **Furmanski, CS** and Engel, SA (2000). An oblique effect in human primary visual cortex. *Nature Neuroscience*. 3(6), p. 535-536.

Extra-curricular Leadership

Graduate Science Journal Founder, Editor UCLA

1999-2001

- Co-created, edited, and contributed to a publication describing the scientific achievements of UCLA graduate students in nontechnical language.

Ultimate Frisbee Team Founder, Captain UCLA

1996-1998

- Organized and led a new university sports team (30 men) to collegiate regional playoffs.
- Attained corporate sponsorship (from PowerBar, Gatorade) for team uniforms and travel expenses.

References

Mike Daily

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Stephen Engel

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Other academic references, Curriculum Vitae, or copies of publications available upon request.