

# DAVID M. CADES, M. A.

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## OBJECTIVE

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To apply Human Factors knowledge and training to the evaluation, design, and critique of systems, products, and processes.

## SKILLS

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### *Usability Testing*

- Seven years experience in designing, performing, and evaluating usability analyses for products and digital applications in a wide variety of domains.

### *Heuristic Evaluation*

- Experience with performing high and low level heuristic evaluation of products, websites and other digital applications.

### *Rapid Prototyping of Digital Products*

- Trained with rapid prototyping tools to develop both low and high fidelity paper and digital prototypes for use in evaluating digital systems and projects.

### *Cognitive Modeling*

- Trained in Goals, Operators, Methods, Selection Rules (GOMS) family of modeling techniques including Keystroke Level Modeling (KLM), Natural Language GOMS (NGOMSL), and Critical Path Model GOMS (CPM-GOMS). Also proficient in ACT-R cognitive modeling language.

### *Statistical Analysis and Research Methodology*

- Proficient in designing and carrying out both laboratory and naturalistic studies.

### *Task Analysis*

- Trained in multiple forms of task analysis such as Hierarchical Task Analysis, Operational Sequence Diagrams, Computer Modeling and Simulation, and Walk-through, Talk-Through analyses.

## PROFESSIONAL/RESEARCH EXPERIENCE

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*George Mason University, Fairfax, VA.*

August 2005 – Present

Graduate Research Assistant

- Investigating the cognitive underpinnings of interrupted task performance in complex environments.
- Assessing how office workers and other employees cope with interruptions in naturalistic settings.
- Exploring people's abilities to moderate internal productivity levels across multiple tasks.

*Lighthouse International, New York, NY*

December 2003 – July 2005

Research Assistant

- Analyzed effects of transient adaptation on different age groups.
- Examined partial field vision loss (Hemianopia) using prism glasses via driving simulation.
- Developed early eye disease detection tests using contrast sensitivity.

*Ergonomics in Remote Environments Laboratory, Medford, MA*

Spring 2002 – Spring 2003

Primary Researcher

- Evaluated visual display design for remote environment navigation for medical devices.

*The Robotics Academy*, Medford, MA  
Primary Researcher

Fall 2002 – Spring 2003

- Designed a robotic endoscopic device for use in remote environments, i.e. minimally invasive surgery and rescue efforts in disaster areas.

*American Institutes for Research*, Concord, MA  
Usability Engineering Intern

Summer 2002 – Spring 2003

- Researched the accessibility of medical information over different media.

*Electronic Ink*, Philadelphia, PA  
Human Factors Intern

Summer 2001

- Designed, executed, and analyzed a study examining reading abilities on electronic displays.

*Verizon Laboratories*, Waltham, MA  
Human Factors Intern

Fall 2000 - Spring 2001

- Carried out usability testing of the website Superpages.com.

## EDUCATION

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*George Mason University*, Human Factors and Applied Cognition Lab, Fairfax, VA

- PhD expected May 2010.
- MA in Psychology May 2007.
- Research interests in interruptions effects on human performance, driver distraction, research methods and statistics and aviation training programs.
- Curriculum included Human Factors in Aviation, Driver Cognition, Cognitive Neuroscience, Multiple Correlation and Regression, Bayesian Statistics, Advanced Research Methods, Psychometric Methods, Cognitive Engineering and Human Factors, and Task Analysis.
- Graduate GPA: 3.95.

*Tufts University*, Medford, MA

- B.S. in Human Factors 2003, Summa Cum Laude with High Honors.
- Curriculum included Computer Interface Design, Human Factors Product Design, Man-Machine System Design, and Industrial/Organizational Psychology.
- Senior Thesis, *Human Factors and the Tube Crawler*.
  - Advisors, Salvatore Soraci, Ph.D. and Caroline Cao, Ph.D.
- Undergraduate GPA: 3.76.

## PUBLICATIONS

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Cades, D. M., Trafton, J. G., Boehm-Davis, D. A., & Monk, C. A. (2007). Does the difficulty of an interruption affect our ability to resume? In *Proceedings of the Human Factors and Ergonomics Society 51<sup>st</sup> Annual Meeting, October 1-5*, (pp. 234 – 238), Baltimore, MD.

Cades, D. M. (2007). Measuring individual differences over and above experimental manipulations. In *Proceedings of the International Society for the Study of Individual Differences 13<sup>th</sup> Biennial Meeting, July 22-27*, (Abstract), Giessen, Germany.

Cades, D. M., Trafton, J. G., & Boehm-Davis, D. A. (2006). Mitigating disruptions: Can resuming an interrupted task be trained? In *Proceedings of the Human Factors and Ergonomics Society 50<sup>th</sup> Annual Meeting, October 16-20*, (pp. 368-371), San Francisco, CA.

## PRESENTATIONS

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Cades, D. M., Trafton, J. G., Boehm-Davis, D. A., & Monk, C. A. (2007). Does the difficulty of an interruption affect our ability to resume? In *Proceedings of the Human Factors and Ergonomics Society 51<sup>st</sup> Annual Meeting, October 1-5*, (pp. 234 – 238), Baltimore, MD.

Cades, D. M. (2007). Measuring individual differences over and above experimental manipulations. In *Proceedings of the International Society for the Study of Individual Differences 13<sup>th</sup> Biennial Meeting, July 22-27*, (Abstract), Giessen, Germany.

Cades, D. M., Boehm-Davis, D. A., & Trafton, J. G. (2007). Interruptions in the office: An observational field study. *Poster presented at the 2007 American Psychological Association Division 21, Division 19, and Human Factors and Ergonomics Society Potomac Chapter Annual Symposium on Applied Experimental Research, Fairfax, VA.*

Cades, D. M., Trafton, J. G., & Boehm-Davis, D. A. (2006). Mitigating disruptions: Can resuming an interrupted task be trained? In *Proceedings of the Human Factors and Ergonomics Society 50<sup>th</sup> Annual Meeting, October 16-20*, (pp. 368-371), San Francisco, CA.

Higgins, K. E., White, J. M., Cades, D. M., Ciaccio, V., & Liu, L. (2005). Effect of age on transient adaptation at low light levels. *Poster presented at Optical Society of America Annual Meeting, Tucson, AZ.*

Higgins, K. E., White, J. M., Asami, R., Liu, L., Rosenthal, B., Ciaccio, V., Cades, D. M., and Gauthier, H. Physiology of glare and readaptation (including age differences). *Presented at National Highway Transportation Safety Administration Workshop on Headlamp Safety Metrics: Balancing Visibility and Glare* (July 2004).

Higgins, K. E., White, J. M., Cades, D., Ciaccio, V., and Liu, L. Early Dark Adaptation: Effect of Age. *Presented at the annual meeting of The Association for Research in Vision and Ophthalmology (ARVO)* (May 2006).

## TECHNICAL REPORTS

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*What can I do for you?: An evaluation of university and professional organizational roles in the development of student training.* (2005) Mintz, F. E., Smith, C. F., Cades, D. M., Fedota, J., and Henrickson, S. E. Technical report submitted to the executive council of the Human Factors and Ergonomics Society.

## AWARDS AND ACCOMPLISHMENTS

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- Recipient of the Katherine M. and Patrick E. McKnight International Travel Award (2007)
- Student Member with Honors of the Human Factors and Ergonomics Society (2007)
- ACT-R Cognitive Modeling Architecture Summer School Attendee (2007)
- High Honors for Senior Thesis in Medical Robotics (2003)
- Recipient of the Deflorez Prize in Human Engineering (2003)
- Golden Key International Honour Society (top 15% of class) (2003)
- Undergraduate Research Fellowship Award (2002-2003)

## PROFESSIONAL SERVICE

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- APS George Mason University Student Representative Fall 2006 - Present
- Reviewer for Aerospace Tech. Group for HFES Spring 2006 – Present
- Reviewer for Human Performance Modeling Tech. Group for HFES Spring 2008 - Present
- Reviewer for Student Forum Tech. Group for HFES Spring 2008 - Present
- Designed official Lab Poster for ARCH Lab at George Mason University Fall 2006
- Worked on design team for official Logo of ARCH Lab at George Mason University Summer 2007
- George Mason University Human Factors and Ergonomics Society Student Chapter
  - President Fall 2006 – Fall 2007

- National Ergonomics Month Coordinator Fall 2005 – Fall 2006
  - Special Programs Coordinator Fall 2005 – Spring 2006
- Co-Chair Host Committee for HFES 51<sup>st</sup> Annual Meeting in Baltimore, MD 2007

## **AFFILIATIONS**

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- Human Factors and Ergonomics Society 2001 – Present
  - Computational Modeling Technical Group
  - Cognitive Engineering Technical Group
  - Aerospace Technical Group
  - Surface Transportation Technical Group
- George Mason Human Factors and Ergonomics Society Student Chapter Fall 2005 – Present
- Human Factors and Ergonomics Society Potomac Chapter Fall 2006 – Present
- American Psychological Association Spring 2006 – Present
  - Division 21 – Applied Experimental and Engineering Psychology
- Usability Professionals Association Fall 2006 – Present
- Association for Psychological Science Fall 2006 – Present
- Cognitive Science Society Spring 2008 – Present

## **TECHNICAL ABILITIES**

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- Computer Programs
  - Adobe Illustrator
  - Adobe Dreamweaver (formerly Macromedia)
  - Adobe Flash (formerly Macromedia)
  - Adobe Director (formerly Macromedia)
  - Adobe Photoshop
  - Adobe Fireworks (formerly Macromedia)
  - Microsoft Office Suite
  - SPSS
  - R Project for Statistical Computing
- Programming Platforms Familiar With
  - Common Lisp
  - Visual Basic
  - Perl
  - C++