

## LEWIS J. BAKER

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### EXPERIENCE

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*POSTDOCTORAL ASSOCIATE*      *COGNITIVE DATA SCIENCE LAB*      *RUTGERS UNIVERSITY*      2016 – present

- Managed team of 10 in creation of mobile lab that measures emotion and learning in real-time
- Developed computer vision algorithms for emotional recognition at near-human levels of accuracy
- Engineered camera input interface for Oculus Rift and programmed augmented reality software
- Conducted over 80 hours of human factors research on perceptual adaptation in Oculus Rift
- Designed three JavaScript surveys via Mechanical Turk to augment image databases

*RESEARCH FELLOW*      *VISUAL COGNITION LAB*      *VANDERBILT UNIVERSITY*      2013 – 2016

- Managed team of 6 in over 30 experiments on attention, perception, memory and decision making
- Measured user attention and memory of digital media using surveys, eye-tracking and psychophysics
- Developed pipeline for analysis of more than 500 live and 7,500 online volunteers
- Created novel metrics for analyzing eye-movements and image segmentation
- Produced over 20 live and 5 animated films to test the effect of film editing on the formation of false memories
- Collaborated with computer scientists to improve readability of narratives produced by custom AI
- Authored 12 peer-reviewed manuscripts, 6 as first author
- Awarded National Science Foundation Graduate Research Fellowship

*RESEARCH ASSISTANT*      *VISUAL COGNITION LAB*      *VANDERBILT UNIVERSITY*      2011 – 2013

- Developed measures of attitudes towards AI and other technologies
- Generalized findings on human-computer interaction to improve human text comprehension by 25%
- Designed interface for use of human avatars in spatial navigation of 3D environments
- Produced 45-minute film for brain imaging study testing passive mathematics learning in children

*STAFF INVESTIGATOR*      *ORLEANS PARISH PUBLIC DEFENDERS*      2010 – 2011

- Led investigations on more than 80 criminal defense cases, providing expert testimony in 3 trials
- Conducted forensics, public records research, subpoena service, and witness interviews

### TECHNICAL PROFICIENCIES

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**Data Science:**      AWS, Bayesian analysis, computer vision, crowdsourcing, database queries, deep learning, eye tracking, machine learning, multivariate statistics, psychophysics, signal-detection, surveys  
**Programming:**      Bash, JavaScript, Python, MATLAB, R, SAS, SPSS  
**Presentation:**      HTML, Jekyll, Jupyter, GitHub, LaTeX, Markdown, Qualtrics, Tableau  
**Multimedia:**      Adobe Production Suite, Audacity, Blender, Final Cut Pro

### EDUCATION

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Ph.D., Psychological Sciences, Vanderbilt University  
Specialization in Cognition and Cognitive Neuroscience  
Certification in Quantitative Methods and Evaluation  
Certification in College Teaching  
B.S. with University Honors, *summa cum laude*, Loyola University New Orleans  
Psychological Science, World Religious Studies, Theatre Arts (minor)