

# Curriculum Vitae

ANIRVAN NANDY

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## Education

2004–present	Ph.D. Candidate Dept. of Psychology (Brain & Cognitive Science) University of Southern California
2000–2002	MSEE (Signal Processing) National Technological University GPA: 3.52/4.0
1990–1994	B. Tech Hons. (Electronics & Communications Engg.) Indian Institute of Technology, Kharagpur, India GPA: 8.33/10.00 B. Tech thesis: “Defect Recognition in Textile Images”

## Research Interests

I am generally interested in the cognitive and computational mechanisms underlying visual perception. My current research focuses more specifically on the mechanisms of and the differences between perception of visual form in foveal (central) and peripheral vision. The benefits of this line of research are two-fold. First, they address some fundamental questions regarding the remarkable ability of the human visual system to recognize objects. A better understanding of these issues will seed the development of computer algorithms that can mimic our ability. Second, they answer the clinical needs of patients with deficits in central vision. Such patients rely on the peripheral visual fields for their daily walks of life. Hence a comprehensive understanding of form vision in the periphery is necessary for the development of assistive technologies for such patients To address these various issues, I perform psychophysical experiments, functional magnetic resonance imaging and computational modelling of the visual system.

## Publications

Nandy, A. S., & Tjan, B. S. (in press). Efficient integration across spatial frequencies for letter identification in foveal and peripheral vision. *Journal of Vision*

Denson, T. F., Pedersen, W. C., Ronquillo, J., & Nandy, A. S. (in press). The angry brain: Neural correlates of anger, angry rumination, and aggressive personality. *Journal of Cognitive Neuroscience*

Nandy, A. S., & Tjan, B. S. (2007). The nature of letter crowding as revealed by first- and second-order classification images. *Journal of Vision*, 7(2), 1-26.

Ronquillo, J., Denson, T. F., Lickel, B., Lu, Z-L., Nandy, A. S., & Maddox, K. B. (2007). The effects of skin tone on race-related amygdala activity: an fMRI investigation. *Social Cognitive and Affective Neuroscience*, 2(1), 39-44.

Tjan, B. S., & Nandy, A. S. (2006). Classification images with uncertainty. *Journal of Vision*, 6(4), 387-413.

## Conference Proceedings

Nandy, A. S., & Tjan, B. S. (2008). The origin of crowding zones. *Talk presented at Vision Sciences Society 2008 Annual Meeting.*

Tjan, B. S., Nandy, A. S. & Chung, S. T. L. (2008). Crowding in the amblyopic fovea can be unlike crowding in the normal periphery. *Poster presented at Vision Sciences Society 2008 Annual Meeting.*

Nandy, A. S., & Tjan, B. S. (2007). Optimal feature integration across spatial frequencies in central and peripheral vision. *Talk presented at Vision Sciences Society 2007 Annual Meeting.*

Nandy, A. S., & Tjan, B. S. (2007). “Signal-clamped” classification images. *Talk presented at Vision Sciences Society 2007 Annual Meeting.*

Tjan, B. S., & Nandy, A. S. (2006). First- and second-order classification image analysis of crowding. *Talk presented at European Conference on Visual Perception 2006.*

Nandy, A. S., & Tjan, B. S. (2006). Feature Integration Maps during crowding as revealed from covariance analysis of classification images. *Talk presented at Vision Sciences Society 2006 Annual Meeting.*

Tjan, B. S., & Nandy, A. S. (2006). Hold it there and let’s have a look: Extracting shift-invariance templates and sub-template features from signal-clamped classification images. *Talk presented at Vision Sciences Society 2006 Annual Meeting.*

Nandy, A. S., & Tjan, B. S. (2005). Recovering the template of a system with position uncertainty. *Poster presented at Society for Neuroscience 2005 Annual Meeting.*

## Honors and Awards

2008	Elsevier/Vision Research Travel Award
2004–2009	Joint Initiative Fellowship (USC College of Letters, Arts and Sciences)

## Teaching Experience

2005 (Fall)	<i>Teaching Assistant</i> , Dept. of Psychology, USC. Course title: An Introduction to Psychological Statistics
2007 (Spring)	<i>Teaching Assistant</i> , Dept. of Psychology, USC. Course title: An Introduction to Psychological Statistics

## Affiliations

2002–2004	Cognitive Science Society, Member
2005–present	Society for Neuroscience, Student Member
2006–present	Vision Sciences Society, Student Member

## Professional Experience

- 1997–2004 *Principal Staff Engineer*  
Motorola Inc., Ft. Worth, TX.  
Responsible for system architecture, design and communication protocol implementation for Motorola's 3<sup>rd</sup> generation cellular base-stations (UMTS, cdma2000). Also worked in Motorola's 2-Way Paging infrastructure division.
- 1996–1997 *Software Consultant*  
Omron Systems Inc., Schaumburg, IL.  
Responsible for the development of a generic protocol driver for serial devices used in Omron's products.
- 1994–1996 *Software Engineer*  
Hughes Software Systems, New Delhi, India.  
(subsidiary of Hughes Network Systems, MD)  
Responsible for sub-system design and development for components of a Frame Relay/X.25 backbone network.