

Fei-Fei Li

California Institute of Technology
MC 136-93, Pasadena, CA 91125
Telephone (Work) 626-395-3695
Email: feifeili@vision.caltech.edu

Education

- 2000 - Current **CALIFORNIA INSTITUTE OF TECHNOLOGY** **Pasadena, CA**
Ph.D. in Electrical Engineering (expected in summer/fall 2004)
Master in Electrical Engineering (2002)
Thesis Project: Visual Recognition: Computational Model and Human Psychophysics Experiments
Advisor: Dr. Pietro Perona & Dr. Christof Koch
- 1995 - 1999 **PRINCETON UNIVERSITY** **Princeton, NJ**
B.A. in Physics Major GPA: 3.9
Certificates (minors) in Engineering Physics, Applied and Computational Mathematics
Graduated with honors

Selected Honors and awards

- 1999 - 2002 National Science Foundation Postgraduate Fellowship, USA
1999 - 2002 Paul and Daisy Soros Fellowship for New Americans, USA
1999 - 2000 Martin Dale '53 Fellowship, Princeton University
1999 Kusaka Memorial Prize in Physics, Princeton University
1999 Elected member of the Society of Sigma Xi
1995 - 1998 Dean's List, Princeton University

Research Interests

Computer Vision • Machine Learning • Psychophysics • Image-based modeling of Object recognition • Scene analysis • Human visual perception • early and mid-vision processes

Professional and Research Experiences

- 2000 - Current **ph.D candidate in the Vision Laboratory** **Caltech, USA**
- Developed a computational model based on Bayesian inference theories for object recognition.
 - Designed and conducted human psychophysics and physiology experiments to investigate object recognition and natural scene categorization in human visual system.
 - Publication received editorial review by *Nature* and *Trend in Cognitive Neuroscience*.
 - **Visiting scholar, Oxford University**, UK, 2002-2003.
 - Teaching assistant in Electrical Engineering department and Computational And Neural Systems department. Responsibilities included course administration, homework evaluation, course project design and websites administration.

- 1997 summer **Research intern, U.C. Berkeley** **Berkeley, CA**
- Played critical role in developing a signal processing theory based on Wiener filters to reconstruct neuronal signals in primary visual pathway.
 - Participated in electrophysiology experiments.
 - Developed computer software for data analysis.

Other work experiences

2002 – Current **Researcher, One H.E.A.R.T. Foundation** **Utah, USA --- Tibet**
(NGO for maternal health aid and research in rural Tibet)

- Led field research in clinical investigation in Lhasa, Tibet on comparative study of Tibetan and western medicines. Project is funded by National Institute of Health. This is the first ever comparative study project in Lhasa, Tibet.
- Assisted ethnographic/anthropological field research in investigating impact of health intervention in rural Tibet.
- Trained Tibetan doctors on research methodology, including clinical statistics, setting up database and computer skills.

1999 - 2000 **Principle Investigator, Tibetan Medicine Hospital** **Lhasa, Tibet**

- Designed, initiated and led team of four Tibetan medicine doctors in year-long clinical research project on gastric disease.
- Had more than three months of field work in remote nomadic pastures and rural villages with native Tibetan nomads and farmers.
- Presented results at two international academic conferences in alternative medicine research. Final clinical paper in preparation.

Invited Presentations

- 10. 2003 Louvain Univserity, Belgium
- 10. 2003 Katholieke Universiteit Leuven, Belgium
- 05. 2003 U. of California, Los Angeles, USA
- 02. 2003 Massachusetts Institute of Technology, USA
- 01. 2003 Plymouth University, UK
- 12. 2002 CNRS, France
- 10. 2002 Princeton University, USA

Publications

News and Reviews

- J. Braun. Natural scenes upset visual applectart. *Trends in Cognitive Neuroscience*. 2002.
- R. Jones. Visual attention: now you see it.... *Nature Reviews Neuroscience* Vol 3, pp589, 2002.

Book and Book Chapter

- **F. F. Li**, R. Sabella, D. Liu, editors. Nanking 1937: Memory and Healing. *M.E. Sharpe*. 2000.
- V. Adams and **F. F. Li**. Integration or erasure? Modernizing medicine at Lhasa's Mentsikhang. In L. Pordie, ed., *Exploring Tibetan medicine in contemporary context: perspectives in social sciences*. *in press*. 2003.

Journal and Conference papers

- **L. Fei-Fei**, R. Fergus and P. Perona. Incremental Bayesian learning of 101 object categories from few training examples. *Submitted*. 2003.

- **L. Fei-Fei**, R. Fergus and P. Perona. A Bayesian approach to unsupervised One-Shot learning of Object categories. *Proc. International Conference on Computer Vision*. 2003.
- **L. Fei-Fei**, R. VanRullen, C. Koch and P. Perona. Why does natural scene recognition require little attention? Exploring attentional requirements for natural and synthetic stimuli. *Submitted*. 2003.
- Savarese, **L. Fei-Fei**, and P. Perona. Do we recognize the shape of a Mirror using template matching? *submitted*. 2003
- **F.F. Li**, R. VanRullen, C. Koch and P. Perona. Rapid natural scene categorization in the near absence of attention. *Proc. Natl. Acad. Sci.* 99, 8378 – 8383, 2002.
- G.B. Stanley, **F.F. Li**, and Y. Dan. Reconstruction of natural scenes from ensemble responses in the LGN, *Journal of Neuroscience*, 19(18):8036-8042, 1999.

Conference abstracts

- **Li, F-F.**, VanRullen, R., Koch, C. and Perona, P. Natural scene categorization in the near absence of attention: further explorations. *Proceedings of the Vision Sciences Society annual meeting, Sarasota, 2003*.
- S. Savarese, **L. Fei-Fei**, and P. Perona. Can we see the shape of a mirror? *Proceedings of the Vision Sciences Society annual meeting, Sarasota, 2003*.
- VanRullen, R., Reddy, L., **Li, F-F.**, Perona, P. and Koch, C. A neural framework for visual search and attention. *Proceedings of the Vision Sciences Society annual meeting, Sarasota, 2003*.
- VanRullen, R., Reddy, L., **Li, F-F.**, Perona, P. & Koch, C. A neural framework for visual search and attention. *Munich Visual Search Symposium, Munich, Germany. 2003*.
- **F.F. Li**, R. VanRullen, C. Koch & P. Perona. Rapid natural scene categorization in the near absence of attention. *Proceedings of the Vision Sciences Society annual meeting, Sarasota, 2002*.
- **F.F. Li**, L. Luobu, Duoji, C. Pincuo and Bazhu. A Preliminary Study on Tibetan Medical Treatment of Symptomatic Patients with H. pylori Infection. *Alternative Therapies*, 7(3):S-20, 2001.
- **Li, F-F.**, VanRullen, R., Koch, C. & Perona, P. Rapid natural scene categorization without attention. *Society for Neuroscience meeting, San Diego (California, USA). 2001*.

Technical Skills

- Operating Systems: Linux, Windows 2000, 9X, Macintosh OS X, 9.x
- Software packages: Office, Adobe
- Languages: Matlab, C, HTML, Latex

Other interests and skills

Reading, writing (published in numerous Chinese magazines), painting (watercolor, oil, pen and ink, pastel, Chinese ink), pottery, native speaker in Mandarin, some Tibetan, Travel (Australia, Europe, South-east Asia, China, North America)

References available upon request