

# FERNANDO AMAT

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## Education

- **Stanford University**—Stanford, CA Sept. 2004-present  
*Ph.D. candidate in Electrical Engineering with Prof. Mark Horowitz*
  - GPA: 3.9/4.0 Expected graduation date: Sept. 2009
  - Dissertation: Statistical Image Processing for High-Throughput Cryo-Electron Microscope Tomography of Whole Cells
- **Center for Superior Interdisciplinary Education (CFIS) at Technical University of Catalonia (UPC)**—Barcelona, Spain Sept. 1999-June 2004  
*Bachelor of Science, Telecommunication Engineering (5 year degree)*
  - Graduated 4th out of 290 students*Bachelor of Science, Mathematics (5 year degree)*
  - Graduated 2nd out of 31 students

## Publications

- F. Moussavi, G. Heitz, F. Amat et al. 3D Segmentation of Cell Boundaries from Noisy Electron Tomography Volumes. Submitted to *Journal of Structural Biology*.
- S. Gould, F. Amat et al. Alphabet SOUP: A Framework for Approximate Energy Minimization. *CVPR*, June 2009.
- G. Carneiro, F. Amat et al. Semantic-based Indexing of Fetal Anatomies from 3-D Ultrasound Data Using Global/Semi-local Context and Sequential Sampling. *CVPR*, June 2008.
- F. Amat, F. Moussavi et al. Markov random field based automatic image alignment for electron tomography. *Journal of Structural Biology*, March 2008, pages 260-275.
- F. Moussavi, F. Amat et al. Markov random field based automatic image alignment for electron tomography. *NIPS workshop*, December 2007.

## Work Experience

- **Siemens Corporate Research-Integrated Data Systems (Intern)**—Princeton, NJ June–Sept. 2007
  - Implemented semantic-based indexing of fetal anatomies from 3-D Ultrasound Data
- **Sharp Labs of America-Advanced Video & Display Technology (Intern)**—Camas, WA June–Sept. 2005
  - Developed data-mining techniques on large datasets obtained from TV users
- **Robert Gordon Univ.-Food Science and Technology Lab (Intern)**—Aberdeen, Scotland June–Sept. 2004
  - Developed mathematical models to measure food thermal properties
- **Univ. of Massachusetts-Microwave Remote Sensing Lab (Intern)**—Amherst, MA June–Sept. 2003
  - Tested technique to measure cross-beam velocity with two X-Band antennas

## Experience in Education

- **Mission Day Care (Tutor)**—San Francisco, CA Feb. 2008–present
  - Volunteering on five person team to help 60 at risk children aged 5 to 12 years
- **Stanford University (TA)**—Stanford, CA Sept.–Dec. 2005
  - Helped to prepare course materials, held office hours and gave lectures when professor was away
- **Stanford Disability Resource Center (Tutor)**—Stanford, CA Jan.–June 2005
  - Tutored individual MS level students in the School of Engineering
- **Casal del Raval dels Infants (Tutor)**—Barcelona, Spain June 2002–June 2003
  - Volunteered on seven person team to help 35 at risk children aged 3 to 8 years

## Skills and Interests

- **Language:** Spanish (native), Catalan (native), English (fluent at all levels), German (beginner level)
- **Programming:** proficient in C++, Matlab
- **Extra-curricular activities:** coordinator of San Francisco trip for incoming Stanford students, *IEEE* member, avid traveler and outdoorsman