

Behrang Nosrat Makouei

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Citizenship: Iranian

Visa status: F-1 visa

Objective

The destiny of humankind is to find the path to the eternal life and every piece of scientific achievement will be a step towards that final goal. As a privileged member of this universal community, I have to excel in science and I will.

Fields of Interest

Interference Alignment Networks, Multi-Hop Relay Networks, Multiple Access Methods, Cooperative Wireless Communications, MIMO-OFDM(A), Information Theory, Smart Antennas and Cross-Layer Design

Education

- **Doctor of Philosophy** in electrical and computer engineering, Sep. 2008 ~ current, *University of Texas at Austin, Austin, Texas*. Co-supervised by Dr. Robert Heath Jr. and Dr. Jeffrey Andrews focusing on practical issues in Interference Alignment.
- **Masters of Applied Sciences** in engineering science, 2008, *Simon Fraser University, Burnaby, Canada*. Supervised by Dr. Faisal Beg with thesis title of "Increasing the Accuracy of Functional Magnetic Resonance Imaging Brain Maps through using Accurate Automatic Registration Pipeline".
- **Bachelor of Science** in electrical engineering, 2004, *Sharif University of Technology, Tehran, Iran*.

Positions Held

- Sep. 2008 ~ current: Graduate Research Assistant
University of Texas at Austin, wireless networking and communications group (WNCG)
- Sep. 2004 ~ Apr. 2008: Research Assistant
Simon Fraser University, medical image analysis lab (MIAL)
- Jan. 2005 ~ Aug. 2008: Teaching Assistant
Simon Fraser University, eight grad/undergrad engineering science courses
- Sep. 2003 ~ Aug. 2004: Research Assistant
Sharif University of Technology, DSP and image processing labs.

Invited Talks & Presentations

"OFDM with Cyclic-Pilot Time Diversity ," Simon Fraser University webcasts in Communications, April 2007

Publications—Wireless Communications

1. Panah, A.; **Nosrat-Makouei, B.**; Vaughan, R., "Non-uniform pilot-symbol allocation for closed-loop OFDM," *Wireless Communications, IEEE Transactions on* , vol.7, no.7, pp.2723-2731, July 2008
2. **Nosrat-Makouei, B.**; Yazdan-Panah, A.; Vaughan, R.G., "Pilot Feedback Equalization for Time Varying OFDM Systems," *Electrical and Computer Engineering, 2007. CCECE 2007. Canadian Conference on* , vol., no., pp.48-51, 22-26 April 2007
3. Yazdan-Panah, A.; **Nosrat-Makouei, B.**; Vaughan, R.G., "OFDM with Cyclic-Pilot Time Diversity," *Vehicular Technology Conference, 2007. VTC-2007 Fall. 2007 IEEE 66th* , vol., no., pp.1371-1375, Sept. 30 2007-Oct. 3 2007
4. Yazdan-Panah, A.; **Makouei, B.N.**; Vaughan, R.G., "An Expectation-Maximization Solution to Interpolated OFDM Systems," *Electrical and Computer Engineering, 2007. CCECE 2007. Canadian Conference on* , vol., no., pp.52-55, 22-26 April 2007
5. Shariat, M.; Ferdosizadeh, M.; Abdoli, M.; **Makouei, B.**; Yazdanpanah, A. & Marvasti, F., "Comparison Between Several Methods of PPM Demodulation Based on Iterative Techniques," *Lecture notes in computer science, Springer, 3124, 2004*, pp.554-559

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Publications—Medical Image Processing

1. **Nosrat-Makouei, B.**; Lei Wang; Barch, D.M & Beg, M. F., "Reducing Erroneous Influence from Neighboring Structures by Diffeomorphic Registration of fMRI Data," *Human Brain Mapping (HBM) 2008, Melbourne, Australia, 2008*
2. **Makouei, B.N.**; Lei Wang; Beg, M.F., "Enhanced Accuracy in Registration of Cortex Functional Data via Large-Deformation Diffeomorphic Maps," *Electrical and Computer Engineering, 2007. CCECE 2007. Canadian Conference on*, vol., no., pp.1159-1162, 22-26 April 2007
3. Wang, L.; **Nosrat-Makouei, B.**; Barch, D.M.; Csernansky, J. G.; Miller, M. I. & Beg M. F., "More Accurate Registration of Hippocampal Functional Data via Large-Deformation Diffeomorphic Maps," *Human Brain Mapping (HBM) 2006, Florence, Italy, 2006*

Awards, Fellowships, Grants

- Backwater Industries/Eduard Jost Sr. & Jr. Graduate Scholarship in Intelligent Systems, Spring 2008
- SFU Graduate Fellowship, Summer 2005, Summer 2007
- Ranked 50th in the Iranian nationwide 'Universities Entrance Exam', which more than 350,000 students participated, 1999
- Award of top 200 Iranian students, Sharif University of Technology., 1999 [ranked 48 among 450'000]

Computer Skills

- Programming language: C++ (VC++), Java, Assembly language (8080, Z80, 8086, 80186, ...)
- Algorithm development environments: MATLAB, MATHCAD
- Design automation tools: SIMULINK. Spice, Orcad, Pc Filter & Filter Designer, Ns-2/Nam-1 (Network Simulator & Network Animator)
- Scripting languages: sh, csh, Tcl/Tk

Selected Graduate Course Work

Towards the end of my Bachelor years at SUT until now I have passed more than a dozen graduate courses mostly concentrating on wireless communications and signal processing, Following is a short list of the courses and the accompanying projects:

- Information Theory (UT-Austin)
Project: N/A
- Advanced Communications: Modulation and Multiple Access (UT-Austin):
Frequency re-use based scheduling for two-hop relay networks
- Wireless Communications Lab (UT-Austin):
Random deployment strategies for two-hop relay networks
- Personal Mobile Communications (SFU):
Comparing DD and PSAM in a systems with receiver diversity
- Stochastic Systems (SFU):
Angle of arrival estimation using array antennas
- Data Networks (SUT) :
A comprehensive presentation on Bluetooth
- DSP II (SUT):
Analysis and recovery of multidimensional signals from irregular samples using nonlinear and iterative techniques
- DSP (SUT):
Inspected the use of DSP for Linear Prediction using MATLAB
- Advanced Digital Image Processing (SUT):
Designed and implemented a "Face Detection" program using MATLAB
- Digital Image processing (SUT):
Designed and implemented an OCR program based on feature extraction using new HU invariant moments