

Ehsan Shahrabi Farahani

Curriculum Vitae

(+98) 912 600 6781
✉ ehsan.shahrabi.f@aut.ac.ir
🌐 ehsanshahrabi.webs.com
✉ ehsan.shahrabi.f@gmail.com

- Department of Electrical Engineering-Communications /Applied Mathematics (minor)
 - **Amirkabir University of Technology (Tehran Polytechnic)**
- Advanced Communications Research Institute (ACRI)
 - Electrical Engineering Department of **Sharif University of Technology**

Objective

- Pursuing graduate studies in the field of **Signal & Image Processing** in a higher level educational environment towards the Ph.D. degree and beyond so as to acquire sufficient knowledge and experience for a productive life time career in teaching and applied research.

Research Interests

- Signal processing
 - Speech & Image Processing
 - Digital Signal Processing
 - Biomedical Signal Processing
 - Reconstruction of Sparse Signals
- Wireless Communication Systems

Education

- **B.Sc. in Electrical Engineering (Communications)** **2011–2015 (Expected)**
Amirkabir University of Technology (Tehran Polytechnic) *Tehran*
 - Total GPA: 17.23/20 , 3.70/4 (up to now) via 104 credits
 - Last year GPA: **18.53/20 , 3.91/4** Last two years GPA: **18.07/20 , 3.90/4**
- **Minor: Applied Mathematics** Total GPA: 17.97/20 (up to now)
- **High School** GPA: 19.47/20 **2007–2011**
Alborz High School (is a college preparatory high school built by Americans) *Tehran*

Honors

- **Permitted to study Applied Mathematics as minor** (This permission is only awarded to talented students, introduced by the Exceptional Talents Office)
- **Ranked top 0.1% of 450,000** participants (460th) in the national universities' entrance exam known as Konkoor-e-Sarasari for B.Sc. degree, 2011.
- Accepted in the first and second rounds of **National Mathematics Olympiad**
- Identified as a "**Elite Student**" by the **National Organization of Educational Testing (NOET)** due to obtaining excellent rank in the national university entrance exam

Journal Publication

- M. Boloursaz, E. Shahrabi Farahani, N. Salarieh, and F. Marvasti, "*Sparse Signal Reconstruction for Asynchronous Level Crossing A/Ds by the Iterative Method with Adaptive Thresholding (IMAT)*", submitted to **IEEE Transactions on Circuits and Systems**.

Academic Projects & Researches

- Designing and simulating "Microwave Imaging via Space-Time (MIST) Beamforming for Early Detection of Breast Cancer" , Researching at "Multimedia Lab" for my B.Sc. project, Dr. H. Sheikhzadeh
- Designing and simulating "DAS & DMAS, ultra wideband microwave imaging methods for breast cancer detection" , Researching at "Multimedia Lab" for my B.Sc. project, Dr. H. Sheikhzadeh
- Designing and Implementation "Performance improvement of Analog to Digital Conversion by Iterative Sparse Reconstruction for 3 types of sampling: Level Crossing, Adaptive Level Crossing, TWO-Level Crossing)" , Researching at "Advanced Communications Research Institute (ACRI)", Dr. F. Marvasti
- Designing and Implementation "Performance improvement of Analog to Digital Conversion by Iterative Method with Adaptive Thresholding and Interpolation for 3 types of sampling: Level Crossing, Adaptive Level Crossing, Two-Level Crossing)" , Researching at "Advanced Communications Research Institute (ACRI)", Dr. F. Marvasti
- Designing and Implementation "Iterative Method with Adaptive Threshold (IMAT) for Image Reconstruction with Missing Samples (based on sparsity and sparse sampled signals)" , Researching at "Advanced Communications Research Institute (ACRI)", Dr. F. Marvasti
- Designing and Implementation "Multi-Level IMAT Method for Image Reconstruction with Missing Samples(based on sparsity and sparse sampled signals)", Researching at "Advanced Communications Research Institute (ACRI)", Dr. F. Marvasti
- Designing and Simulating "Transmitter & Receiver, using linear coding & decoding, using match filter" by matlab , Spring 2014. final project for "Communications-II" course, Dr. H. Amindavar
- Designing and Simulating "A mirror-current single-stage Amplifier" by Hspice, Spring 2014. final project for "Electronics-III" course, Dr. M. Yavari
- Investigating "The Voltage Distribution in an unconventional shape using Finite Element Method and Finite Difference Method (in non-cartesian coordinates), and compared the results with the measurements done practically on the actual model built", Spring 2014. project for "Fields and Waves" course, Dr. G. Moradi
- Researching on Non Destructive Tests (NDT) by Eddy Current methods, winter 2014. Researching at "Signal Processing Lab.", Dr. H. Amindavar
- Designing and Implementation of Notch and Peaking filter for removing noise power, Spring 2013. final project for "Signals and Systems" course, Dr. F. Abdollahi
- Designing and Implementation PWM (Pulse Width Modulation) by FPGA-ISE, Fall 2013. final project for "Logic Circuits Laboratory" course, Mr. Khaje Amiri
- Designing and Implementation several "C++" course projects, Fall 2011. "C++" course, Dr. B. Taheri

Selected Academic Courses

○ Linear Control Systems	19.8/20	○ Probability & Statics	18.5/20
○ Electromagnetics	19/20	○ Fields and Waves	18/20
○ Signals and Systems	17.5/20	○ Logic Circuits	16.9/20
○ Communication Systems I	20/20	○ Electronics I	17.75/20
○ Communication SystemsII	16/20	○ Electronics III	17.3/20
○ Matrix and Linear Algebra	20/20	○ Technical English	19.5/20
○ Transmission Systems I	18.5/20	○ Digital Signal Processing (DSP1) (In progress)	
○ Engineering Mathematics	19/20	○ Nonlinear Optimization (In progress)	

Editing Experience

- Editing "Power Systems Analysis" book, written by my Professor Dr.Askarian, this is a book that can be taught as a textbook for Power Systems Analysis course in communication minor, Fall 2013.

Work & Teaching Experience

- Researcher at “**Advanced Communications Research Institute (ACRI)**”-Electrical Engineering Department of Sharif University of Technology
"Supervisor: Dr. Marvasti"
- Researcher at “**Multimedia Lab**”-Electrical Engineering Department of Amirkabir University of Technology
I have started to work recently for my B.Sc. project "Supervisor: Dr. H. Sheikhzadeh"
- Being Selected by the Electrical Engineering Department to teach **Communication Systems I** as tutor to other students
- Teaching assistant for **Engineering Mathematics**, EE department-Amirkabir University of Technology, Now.
Instructor: Dr. Mirzavand
- Teaching assistant for **Linear Control Systems** , EE department-Amirkabir University of Technology, Spring 2014 & Fall 2015
Instructor: Dr. Sooratgar
- Teaching assistant for **Electromagnetics**, EE department-Amirkabir University of Technology, Spring 2014.
Instructor: Dr. Ghorbani
- Teaching assistant for **Electromagnetics**, EE department-Amirkabir University of Technology, Fall 2013.
Instructor: Dr. Sarraf
- Teaching assistant for **Communication Systems 1**, EE department-Amirkabir University of Technology, Next semester.
Instructor: Dr. Emadi
- Teaching high school Mathematics and Physics as tutor

Presentations

- Working in Kandou Farhang Amoozesh (Ghalamchi) Institute as counselor
- Application of “Sensor Networks” and how they work, Spring 2014.
- What is “Pulse Width Modulation (PWM)”, winter 2014.

Computer skills

Engineering Software:

- MATLAB
- Hspice

Programming Language

- C++

O.S & Tools

- Microsoft Windows
- Microsoft Office
- L^AT_EX

Language Skills

- **Persian** Native ○ **English** Fluent
- TOEFL Internet-Based Test score:85, Reading:23, Listening:20, Speaking:20, Writing:22
- GRE General : Quantitative: 166/170, Verbal 142/170, Analytical Writing: 3/6

Hobbies and Interests

- Swimming
- Biking
- Reading Physics Books
- Hiking
- Watching Movies
- Surfing Webpages