Alireza Bahramali

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Education

- **University of Tehran** — Tehran, Iran
  Bachelor of Science in Electrical Engineering major in Communications — *2012 - 2017(expected)*
  - GPA(overall) : 17.75/20 (in WES format : 3.87/4)

- **Allame Helli High School** National Organization for Development of Exceptional Talents (NODET) — Tehran, Iran
  High School Diploma in Mathematics and Physics — *2005 - 2012*
  - Graduated with a 19.7/20 average

Research Interests

- Data Networks
- Network Security
- Data Science and Machine Learning
- Internet of Things(IoT) and smart grids
- Software Defined Networks
- Wireless Communication

Honors

Ranked 70th among 260000 participants in National Universities Entrance Exam (Konkur) 2012
Awarded member of National Elites Foundation (Society of prominent students of the country) 2012
Exempted from M.Sc. university entrance exam as an exceptional-talent student 2016

Publications

- A.Shahanaghi, **A.Bahramali**, H.Kebriaei, V.Shah-Mansouri, "Analysis of Average Service Delay of Unslotted ALOHA: a Game Theoretic Approach", 2016. -*(ready to submit)*

Research Experiences

- **Detection of malicious activities in DNS traffic**
  In this project I captured DNS traffic using Wireshark, parsed them and made bipartite graphs using Python modules. Applied graph theories to detect DNS attacks such as botnet attack or DNS tunneling.
  Under supervision of Dr. Behnam Bahrak

- **Ongoing Thesis Project: Consistent Network Reconfiguration in Software Defined Networks**
  Under supervision of Dr. Ahmad Khonsari

Notable Course Projects

- **Examining Ad-hoc on Demand Distance Vector (AODV) using NS2**
  In this project I set up a wireless network and examine Ad-hoc on Demand Distance Vector (AODV) routing protocol used in wireless environments using NS2.
  Computer Networks, instructor: Dr. Vahid Shahmansouri

- **Design of a transmitter/receiver system with OFDM modulation using MATLAB**
  In this project I designed a transmitter and receiver system of random bits modulated in OFDM over a Rayleigh channel, and calculated the symbol error rate and bit error rate of received bits.
  Wireless Communications, instructor: Dr. Maryam Sabbaghian

- **Design of a sound based transmitter/receiver system using MATLAB**
  In this project I sent an image using digital modulations such as QAM, FSK, BPSK, over a speaker and received it using a microphone and detected it.
  Digital Communications Lab, instructor: Dr. Ali Olfat

- **Design filters for noise cancellation in a sound file**
  In this project I designed various IIR and FIR filters to cancel the noise of a noisy sound file using MATLAB fdatool.
  Digital Signal Processing, instructor: Dr. Mohammad Ali Akhaie

- **Implementation of a social network using C++**
  In this project I designed a social network using C++ and Qt creator.
  Advanced Programming, instructor: Dr. Ramtin Khosravi

- **Design and implementation of an automatic light control system**
  In this project I designed an automatic system which controls the light intensity of a room using AVR at-mega32 and a photocell.
  Microprocessors, instructor: Dr. Omid Fatemi

- **Design and implementation of various classifiers using MATLAB**
  In this project I designed and implemented classifiers such as Bayes classifier, K-NN classifier and linear classifier using MATLAB.
  Pattern Recognition, instructor: Dr. Babak Nadjar Araabi

Work Experience

- **Internet of things(IoT)**   *Parsian* Idea Electronics Co., Tehran, Iran
  Designer of IoT systems   *Summer 2014, Summer&Winter 2016*
  - Design and implementation of a remote control system using AT-Mega64 and SIM900 GPS/GPRS module. In this project I designed and implemented a circuit which gets information through a web service and sends them to a peripheral device.
  - Design and implementation of a home automation system using AT-Mega32 and ECN28j60 ethernet module. In this project I designed and implemented a system which controls temperature and light of a room and send this information to a server using ethernet protocol.

- **Internship** (under supervision of Dr. Vahid Shahmansouri)   Farine Fanavar Co., Tehran, Iran
  Designer of IoT systems   *Summer 2015*
  - Design and implementation of a home automation system using Arduino boards. In this project we controlled the temperature, humidity and other environmental conditions by an Arduino mega board and sent this Information to a server using CoAP protocol.

Selected Courses

- **Major courses**

  - Engineering Mathematics: 18.8/20
  - Computer Networks: 19.4/20
  - Digital Communications: 17.6/20
  - Digital Signal Processing: 17/20
  - Microprocessors: 18.5/20
  - Digital Communications Lab: 19.6/20
  - Communication Circuits: 17.95/20
  - Fields and Waves: 17.1/20

- **Elective courses**

  - Advanced Programming: 19.7/20
  - Pattern recognition: TBA
  - Game Theory(Auditing)

Computer Skills

- Programming and Markup Languages:

- **Expert:** C, C++, Python, MATLAB, Codevision AVR, LaTeX, Arduino Sketch
  - **Familiar:** Java, Network Simulator (NS2)
- Technical Software:
  - **Expert:** Wireshark, Altium Designer, Proteus, Microsoft Office
  - **Familiar:** Advanced Design System (ADS), Hspice, Multisim, HFSS

Teaching Experiences

- **Engineering Probability & Statistics**, instructor: Dr. Ali Olfat
- **Analog Communications**, instructor: Dr. Sadaf Saleh Kaleibar
- **Analog Communications**, instructor: Dr. Ali Olfat
- **Electronic III**, instructor: Dr. Omid Shoaei
- **Microprocessors**, instructor: Dr. Omid Fatemi
- **Electronic I Lab**, instructor: Hourie Khodkari

Language Skills

- **Persian**: Native
- **English**: Fluent
  - TOEFL iBT: 106/120, Reading: 30, Listening: 28, Speaking: 20, Writing: 28
  - GRE: Verbal Reasoning: 150/170, Quantitative Reasoning: 170/170, Analytical Writing: 3/6

Hobbies

- Soccer
- Swimming
- Music
- TV series and Movies

References

- **Dr. Behnam Bahrak**, Assistant Professor of Electrical Engineering, University of Tehran
  - bahrak@ut.ac.ir
- **Dr. Vahid Shahmansouri**, Assistant Professor of Electrical Engineering, University of Tehran
  - vmansouri@ut.ac.ir
- **Dr. Ali Olfat**, Associate Professor of Electrical Engineering, University of Tehran
  - aolfat@ut.ac.ir
- **Dr. Karim Mohammadpour-Aghdam**, Assistant Professor of Electrical Engineering, University of Tehran
  - kaghdam@ut.ac.ir
- **Dr. Omid Fatemi**, Assistant Professor of Electrical Engineering, University of Tehran
  - omid@fatemi.net