# Amir Hossein Rassafi | Curriculum Vitae

**Amirkabir University of Technology**

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## EDUCATION

- **Master of Science** — 2018–Now
  - *Amirkabir University of Technology* — *Tehran-Iran*
    - Digital Electronic Systems
- **Bachelor of Science** — 2013–2018
  - *Amirkabir University of Technology* — *Tehran-Iran*
    - Major: Electrical Engineering(Electronics)   GPA: 3.81/4(18.1/20) via 140 credits
    - Minor: Computer Engineering   GPA: 3.82/4(18.46/20) via 17 credits
  - Thesis : Design and manufacturing a controllable lighting system over internet
- **High School** — 2009–2013
  - *NODET(National Organization for Development of Exceptional Talents)* — *Qom-Iran*

## RESEARCH INTERESTS

- Big data
- IoT
- Deep learning
- Computer Networking

## HONORS

- Awarded to continue graduate study (M.Sc. program) at Amirkabir University of Technology(AUT) without participating in university entrance exam due to obtaining high GPA and selected as **elite student**.
- **Ranked 6$^{th}$** in Electrical Engineering, Electronic Group, among more than 35 students, Amirkabir University of Technology, Tehran, Iran.
- Permitted to study Computer Engineering as a minor (This permission is only awarded to talented students, introduced by the Exceptional Talents Office).
- Granted admission from Talented Student Office of Amirkabir University of Technology for graduate study.
- RoboCup Iran Open 2012(Junior Soccer 2 on 2)   4$_{th}$ place
- Autronic competition (electronic design challenge) 1$^{st}$ level   1$^{st}$ place
- Autronic competition (electronic design challenge) 2$^{nd}$ level   3$^{rd}$ place

## SKILLS

### Programming Language
- C & C++
- Python
- Java
- VHDL
- Assembly(ARM)
- LaTeX
- HTML & CSS

### Technical Softwares
- Matlab
- MS. Visual Studio
- Vivado & ISE
- Altium
- SolidWorks
- Proteus & LTspice
- Keil uVision
- STM32CubeMX

### Programming Environments
- Qt Creator
- PyCharm
- NetBeans

### Hardware
- Xilinx Zynq7010 & Spartan3
- BeagleBoneBlack & Raspery Pi
- ARM(STM32 & LPC & Atmel )
- NRF51822(Nordicsemi SOC)
- AVR(Mega & Xmega) & Arduino

## RELATED COURSES

| Course | Grade | Course | Grade |
|---|---|---|---|
| Computer Programming | 19.5/20 | DSP | 19.5/20 |
| Advanced Programming | 19/20 | Multimedia Systems | 20/20 |
| Signal Systems | 19/20 | Numerical Analysis | 19.5/20 |

| | | | |
|---|---|---|---|
| o Differential Equations | 19/20 | o Computer Aided Design Laboratory | 20/20 |
| o Probability & Statistics | 19/20 | o Electronic Measurement | 20/20 |
| o Data Structure | 18.3/20 | o Statistical Learning Theory | coming soon |
| o MicroController | 19/20 | o Swarm Intelligence Algorithms | coming soon |

## WORK EXPERIENCES

o **R & D**                                                                                  Spring 2017 - Now
  ⚕ *Barobod Company*                                                                        *Tehran-Iran*
  - Designing a network with LoRa Module for queue management system(like in the bank)
  - Designing an over internet BMS platform based on MQTT protocol(hardware & software)

o **R & D**                                                                              Spring 2016 - Fall 2016
  ⩘ *Arsam Robotic Company*                                                                  *Tehran-Iran*
  - Designing some mini robot like SSL Robot but controlling them with mix of Vision and GamePad(sth like PES game but with robot)
  - Design hardware and software of wirelessly controlable robots (9 similar robots in a group)
    ☁ Click here to download UART commands.

o **Teaching**                                                                                Spring 2011
  ❋ *Robotics in National Organization for Development of Exceptional Talents*                *Qom-Iran*

o **Teaching Assistant**                                                                        Fall 2017
  MATLAB TA for DSP0 in AUT and under supervision of Dr Hamid.Sheikhzadeh.                     *Tehran-Iran*

## SELECTED PROJECTS

o Localization
  - Using ArUco library and ArUco board marker for navigating AGV robot in a room
  - Supervisor: Dr. Abdollahi at Controlling Multi Vehicle System Labratory (CMVS LAB) [Spring 2014]
o Optical Flow
  - Using optical flow (with OpenCV lib) and mouse sensor for fixing place of a quadrotor robot
  - Supervisor: Dr. Abdollahi at CMVS LAB [Fall 2014]
o IMU
  - Making IMU with ARduino and monitor it on LabView
    Supervisor: Dr. Rezie [Spring 2015]
o Plants VS Zombies game
  - Simplified model of Original Plants vs Zombies game with Java (Advanced Programing course)
  - Supervisor: Dr. Noorhosseini [Spring 2015]
o Laplace
  - Practical implementation of solving partial equations with the Laplace method
    Supervisor: Dr. Moradi [Spring 2014]
o FPGA
  - Writing VHDL Code for working with PS2 keyboard on spartan3
  - Supervisor: Dr. Sharifiyan [Spring 2015]
o CoDesign
  - making and IPCORE for reading pictures and getting some sensors data and connect it into a microblaze with AXI BUS on zynq(simulation on Vivad2016)
  - Supervisor: Dr. Saheb Zamani [Fall 2015]
o BMS (Building Management System).
  - Read temperature and humidity of different parts of building and send with SMS to user with STM32F4, NRF51822 in BLE mode.
  - Supervisor: Dr. Sharifiyan [Spring 2015]
o Path planning.
  - robot path planning simulation with python and genetic algorithm
  - Supervisor: Dr. Sharifiyan [Fall 2018]