# KAMYAB AZIZI


## CONTACT

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**HomePage:** https://kamyabazizi.github.io

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# CURRICULUM VITAE

## INTERESTS:

Machine Learning
Deep Learning
Signal Processing
Embedded Systems
Computer Vision
HW/SW co-design

## EDUCATION:

**Master study at Amirkabir University of Technology-Electrical and Electronic engineering (Tehran Polytechnic)**
**Thesis Title:** Transfer learning in pruned deep neural networks based on the lottery ticket hypothesis
**Supervisor:** Dr. Hassan Taheri
2020-2022 GPA 17.25/20 (3.77/4 GPA)

**BSc at Amirkabir University of Technology-Electrical and Electronic engineering (Tehran Polytechnic)**
**Thesis Title:** Image compression using hybrid methods based on digital image processing and linear algebra
**Supervisor:** Dr. Hassan Taheri
2015 -2020 GPA 16.07/20 (3.2/4 GPA)

## HOBBIES:

Football
Movies
Reading Books
Swimming

## EXPERIENCE:

**Research Assistant**
Amirkabir University of Technology-Electrical and Electronic engineering (Tehran Polytechnic) – Since Oct. 2020

**Volunteer Student Committee at the 5th International Conference on Robotics and Mechatronics (ICROM)**
Robotic Society of Iran (RSI) – Oct 2017

**Electronics Engineering – Internship**
Working on Programming Logic Device (PLD) and Sensors in Trucks – Summer 2017

## SKILLS:

**Programming Skills:**
- Python Programming Language
- MATLAB & SIMULINK
- VHDL Programming-FPGA
- C/C++

**Knowledge and Theoretical Skills:**
- AI-Machine Learning-Deep Learning
- Image-Signal-Speech processing
- Pattern Recognition-Computer Vision
- Logic Circuits and Computer Architecture

**Tools and Technologies:**
- AVR (Codevision) & ARM (Keil)
- Microprocessors and assembly language
- Linux
- LaTex

**Frameworks:**
- Tensorflow and Keras
- Pytorch
- Pyspark
- NumPy and Pandas

## LANGUAGES:

**» English**
Professional working proficiency

**» German**
Elementary proficiency

**» Kurdish**
Native or bilingual proficiency

**» Persian**
Native or bilingual proficiency

## SELECTED PROJECTS:

### Course Projects (EE Dept. of AUT):

| | | |
|---|---|---|
| 2022 | Deep Learning [Dr. Faez]<br>*Audio-based drone detection and identification using Deep Learning* | Keras |
| 2021 | Computer Vision [Dr. Faez]<br>*Map to Aerial Image Translation* | Pytorch |
| 2021 | Neural Networks [Dr. Faez]<br>*Music genres classification task with Convolutional Neural Networks* | Keras |
| 2021 | Big Data Analytics [Dr. Sharifian]<br>*Malware classification in BIG 2015 dataset for Microsoft challenge with the decision tree and Random forest classifier* | Pyspark |
| 2021 | Big Data Analytics [Dr. Sharifian]<br>*Fraud detection with graph analytics on healthcare provider fraud detection analysis dataset* | Python |
| 2020 | Statistical Pattern Recognition [Dr. Faez]<br>*Singular value decomposition algorithm for octonion signal and image denoising* | MATLAB |
| 2020 | Data Analytics [Dr. Sharifian]<br>*Data acquisition and processing environment for IoT applications with Apache Kafka and TensorFlow Serving* | Virtual Machine, Linux, Docker |
| 2019 | Electronic (III) Lab. Project [Mr. Kashi]<br>*Simple MOSFET-based dc/ac inverter with Astable Multivibrator* | Electronic Circuit, Proteus |
| 2019 | FPGA [Dr. Sharifian]<br>*Implementing pipe-lined CORDIC Block on FPGA* | VHDL |
| 2019 | Microprocessor I Lab. [Dr. Sharifian]<br>*Triangle Wave Generation with ARM (Without using DAC block)* | C/C++, Keil, STM32CubeMX |
| 2018 | Electronic Physics [Dr. JahanShahi]<br>*Silicon wafer temperature sensor MATLAB simulation and visualization with Arduino* | MATLAB, C/C++, Arduino |

## CERTIFICATES:

| | | |
|---|---|---|
| 2022 | **Convolutional Neural Networks**<br>*DeepLearning.AI* | https://www.coursera.org/account/accomplishments/verify/VKBSAVYUZSSS |
| 2022 | **Apply Generative Adversarial Networks (GANs)**<br>*DeepLearning.AI* | https://www.coursera.org/account/accomplishments/verify/JKXF3JVCXYU2 |
| 2022 | **Generative Adversarial Networks (GANs) Specialization**<br>*DeepLearning.AI* | https://www.coursera.org/account/accomplishments/specialization/K68AT2RDD8XN |
| 2022 | **Build Better Generative Adversarial Networks (GANs)**<br>*DeepLearning.AI* | https://www.coursera.org/account/accomplishments/verify/ZP75E7YQSL93 |
| 2022 | **Build Basic Generative Adversarial Networks (GANs)**<br>DeepLearning.AI | https://www.coursera.org/account/accomplishments/verify/8EN8RB3FNJSR |
| 2022 | **Structuring Machine Learning Projects**<br>*DeepLearning.AI* | https://www.coursera.org/account/accomplishments/verify/ZUP5P4NBM3NX |

| | | |
|---|---|---|
| 2022 | **Machine Learning**<br>*Stanford University* | https://www.coursera.org/account/accomplishments/verify/NRHF4N5YMFH2 |
| 2022 | **Improving Deep Neural Networks: Hyperparameter Tuning, Regularization, and Optimization**<br>*DeepLearning.AI* | https://www.coursera.org/account/accomplishments/verify/ZVHDKSYV5FVZ |
| 2022 | **Neural Networks and Deep Learning**<br>*DeepLearning.AI* | https://www.coursera.org/account/accomplishments/verify/UF77DE6SVWZD |
| 2021 | **FIFTH IPM ADVANCED SCHOOL ON COMPUTING & ARTIFICIAL INTELLIGENCE**<br>*IPM Advanced School on Computing: Artificial Intelligence* | https://raw.githubusercontent.com/kamyabazizi/kamyabazizi.github.io/main/images/CER2.jpg |
| 2017 | **Executive Member in the 5th RSI International Conference on Robotics and Mechatronics**<br>*ICRoM* | https://raw.githubusercontent.com/kamyabazizi/kamyabazizi.github.io/main/images/CER1.jpg |

## HONORS:

- **15th rank in the Iranian National Scientific Olympiad for University Students in Electrical and Electronics Engineering**
  *Issued by Sanjesh Organization – Dec 2020* (https://gto.aut.ac.ir/content/8449/)
- **Ranked Within the Top 0.27%**
  *(30th) Amongst ~11,000 participants in the national M.Sc. Entrance Exam in Electrical Engineering – Sep 2020*
- **Ranked Within the Top 0.25% of students in the Iranian National University Entrance Exam**
  *(454th) Amongst ~181,000 participants in the national university entrance exam – Sep 2015*

## NAME AND EMAIL OF TWO REFERENCES:

**HASSAN TAHERI.** Associate Professor, Department of Electrical Engineering, Amirkabir University of Technology

Email: htaheri@aut.ac.ir

**KARIM FAEZ.** Professor, Department of Electrical Engineering, Amirkabir University of Technology

Email: kfaez@aut.ac.ir

# KEY PUBLICATIONS

### Using Structured Pruning to Find Winning Lottery Tickets – (accepted)

The result of my master's dissertation has been submitted to 28th International Computer Conference, the Computer Society of Iran (CSICC2023).

### Fabrication of heartbeat signal acquisition device and monitoring of the signal on mobile screen

In progress