Amir Amirinezhad

Electrical Engineer

Electronic and digital systems designer

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Tehran, Iran

WORK EXPERIENCE

Researcher and developer
Sharif Research Core

07/2016 - 06/2017 *Tehran, Iran*

Communication systems designing

Achievements/Tasks

- Schematic and PCB designing with Altium software
- ARM processors programming
- Setting up digital audio codec and I2S interface

Digital system designer
Sharif Technology Service Complex

10/2017 - Present *Tehran, Iran*

Aerospace systems designing

Achievements/Tasks

- Designing frame grabber by FPGA Spartan6 and ARM microcontroller
- Setting up CMOS camera module
- GUI designing by C#

EDUCATION

Bachelor of Electrical Engineering
Sharif University of Technology

09/2014 - 06/2018 *Tehran, Iran. GPA: 17.85*

Courses:

- ASIC and FPGA design
- DSP and Microprocessors
- Embedded system design
- Digital signal processing
- Advanced and parallel programming
- Machine learning

Master of Electronic and Digital systems Engineering
Sharif University of Technology

09/2018 - Present *Tehran, Iran*

Thesis:

- Active learning casual relations by reinforcement learning

SKILLS

- FPGA, Microcontroller, Microprocessor and DSP programming
- Programing languages: C/C++, Python, MATLAB, C#, JAVA, Bash script
- OS: Windows and Linux
- Serial interfaces: UART, SPI, LAN, USB, I2C, CAN, I2S
- Embedded systems: Raspberry pi

ACCOMPLISHED PROJECTS

AES encryption transceiver on FPGA (01/2017 - 06/2017)

- Implementation of AES encryption on Xilinx Spartan 6 FPGA under the supervision of Dr. Mahdi Shabani. On the transmitter side, it gets data in floating-point format. Then converts data to fixed-point format and encrypts it. On the receiver side, it runs error detection and decodes data. The main modules are listed below:
- Floating-point to fixed-point converter module.
- AES encryption and decryption module.
- Convolution encoder and decoder module.

Audio equalizer on FPGA (01/2017 - 06/2017)

- Implementation of the audio equalizer on Xilinx Spartan 6 FPGA under the supervision of Dr. Mahdi Shabani. This system processes audio in the frequency spectrum and increases the quality. The main modules are listed below:
- 1024 point FFT and LFFT module.
- UART interface module.
- AC97 audio interface module.

Frame grabber with Mojo board (10/2017 - 03/2018)

- This board configures a digital camera and captures images. Then it saves images on NAND flash. After that, it sends it to the computer via the CAN interface. Under the supervision of Dr. Mohammad Navazi.

Ultrasound imaging (07/2018 - 06/2019)

- In this project, an FPGA drives one channel ultrasound sensor and reads the reflected signal by ADC. Then FPGA sends it to the raspberry pi board. On the RPI board, data is processed and shows the image.

LANGUAGES

English
Professional Working Proficiency

Arabic
Limited Working Proficiency

INTERESTS

IOT | Embedded systems | Artificial Inelligence | Robotic