Navid Mirnouri

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EDUCATION

- **April 2018-Now: *Master of Informatics*,** Technical University of Munich.
- **Sep 2011-June 2016**: ***Bachelor of Science***,Computer Engineering(Hardware), Amirkabir University of Technology, Tehran, Iran
  - GPA : 16.00/20
  - Final Project: Interacting Display System for Smart Home(Python).
  - In this project I designed and implemented displaying system for a building using python language on raspberry pi
- **2007-2011**: ***High School Diploma***, Math & Physics, Hatef High school, Tehran, Iran
  - GPA:19.54/20

TECHNICAL SKILLS

Programming languages	Hardware Description	VHDL
	Application Development	Java, C
	Script	Python
	Web Design	GoLang
		JavaScript, Angular Ts
		ReactJs (familiar)
	Database	MySQl
		Vitess (Familiar)
		Redis
	revision control system	Git
Tools	Hardware and Software Tools	Arduino, Xilinx ISE , Altera Quartus,Proteus, Modelsim, Eclipse, SPICE, Turbo C, Cadence ICFB,Altium Designer, Packet Tracer
Hardware Chips and boards	FPGA	Altera DE2
	AVR	Atmega16,328
	ARM	Raspberry Pi

RESEARCH & WORK EXPERIENCE

- **Winter 2018- Commonroad group , Chair of Robotics and Autonomous Driving at Technical University of Munich.**
  Python Developer.
- **Fall 2018 - Motius Company,Munich.**
  Embedded Developer Engineer.(IoT Retrofit Project)
- **Jan 2017- Feb 2018 Quiz of King Game, PalangCo. (https://quizofkings.com/)**
  I was working as a frontend and backend developer. I was in charge of implementing Content Relationship Management (CRM) dashboard panels. Frontend was developed in AngularTs and backend APIs were implemented in Golang.
- **July 2016- Jan 2017 Internet of Things lab- Amirkabir University of Technology .**
  I worked there as an embedded system developer(Arduino). Using Arduino platform I implemented a controller for a smart room.
- **Digital System Design (DSD) Group-Amirkabir University of Technology**
  Internship:Experimental projects on FPGA.
  Research: Hardware/Software Co-design.

Language

English: Fluent (TOEFL ibt:98/120 Reading:24/30 Listening:28/30 Speaking:22/30 Writing:24/30)
German: A1

AWARDS & PRIZES

- ***Third*** place in FPT'15 Conference Design Competition, Queenstown, New Zealand. December 2015.
- ***Ranked as Top 0.5%*** in National Universities Entrance Exam among 320,000 participants - Summer 2011.

Notable Course Projects

- **IoT RetroFit TruPlasma Flow Power Supplies at Motius** **Fall 2018**
  - In this project the goal was to use IoT solution for sending power consumption data over the network to the servers. For this purpose the device was given to us with a uart interface and a unique communication protocol. My job was to R&D for designing and implementing a IoT solution which gets the power consumption data via uart interface and send it through LTE module using MQTT protocol to a server.
- **Implementation of data compression technique in cache on FPGA** **Fall 2016**
  - In this project I implemented a cache module in vhdl. On top of the cache two extra module were implemented including Compressor and Decompressor. In case of write operation to cache:

Compressor module get the data from UART interface and compress the data and send it to cache. Cache stores the data and when a read operation happens Decompressor module reads the compressed data and decompress it and send it over uart module. Entire project were implemented in VHDL.

- **Design and Implementation of a Web Site for Sport news** **Fall 2014**
    - Using HTML, CSS language to design and implement client side of a web site and PHP, JavaScript, XML and JQUERY to implement the server side of a dynamic website for news as the course of "Internet Engineering".
- **Implementation of HDLC Protocol** **Spring 2014**
    - Using Java programming language to implement "HDLC Protocol" as the course of "Computer Network II". In this project, frame generating that is included data bit stuffing, CRC and control bits implemented and then I made one station between Server and Client that can change frame's bits with a specific probability.
- **Design and Implementation of "FTP Client"** **Fall 2013**
    - Using Java programming language to design and implement a "FTP Client" as the course of "Computer Network I". The ftp client can connect to every ftp server and do whatever a user need to do with a FTP server, such as list the user's files, delete file, make new folder, upload to server, download from server, etc.
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- **Implementation of TRAX Artificial Intelligence Algorithm on FPGA** **Fall 2015**
    - Using Xilinx XPS ,Software design of Min-Max algorithm with some heuristic function for TRAX Artificial Intelligence Algorithm on FPGA. This program was developed using C language and was implemented on ZedBoard for FPT 2015 Design Competitions.
- **Hardware Software Co-design of an image encrypting system on FPGA** **Spring 2015**
    - Using Xilinx XPS ,Hardware Software Co-design to implement an encrypting system as the course of "Digital Design Automation". This system included a VHDL module that has some input as a data. This module was instantiated with C language and connected to Microblaze through FSL Bus. A user interface was designed on PC to get the image, then send it to FPGA using RS232 protocol.
- **implementation of CPA attack to find key of AES encryptor** **Spring 2015**
    - Power consumption data, leaked from the encryptor was handed to us previously. We used these data to implement CPA attack in C language, in order to find embedded key.
- **Design and implementation of a system for remote controlling of light** **Spring 2015**
    - Using AVR ATMEGA-16 , a remote controller to turn on or turn off the light, and the feature to adjust the luminous intensity as the course of "Microprocessor Lab". This system included a PCB module

that has been designed using Altium Designer software.A remote controller was used to select a LED and also to adjust its luminous intensity. A software PWM was generated in C language to do this.

- **Design and Implementation of "TETRIS" on FPGA** **Fall 2014**
    - Using C programming language and soft core processor of Microblaze to implement a game called "TETRIS" on FPGA(Xilinx ml507). A user interface was designed using JAVA language and implemented on PC to get the data from user and display it after the process was done on FPGA. The Tetris Game was written in C language and implemented on FPGA.The connection between PC and FPGA was established by ethernet and using UDP and ARP protocol.ARP and UDP protocol was also implemented by C language.
- **Age of Empires,** **Spring and Summer 2012**
    - A Java based multi thread video game as Advanced Programming course project

Publications & Talks

- N.Mirnouri, Applying Data Compression Techniques on Systolic Neural Network Accelerator(Tech Report), Sep 2016
  (https://arxiv.org/abs/1701.03734)
- N.Mirnouri,Interacting Display system for Smart Home (Final Project) - In Persian,May 2016.