|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Fatih Emre Simsek | |  |  | | --- | --- | | Ankara/Turkey |  | | +90 505 804 8283 |  | | simsekfe@gmail.com |  | | fatih-emre-şimşek-msc-a962572a |  | |  |  | |

# Objective

I have been looking for Digital/FPGA design engineer positions in electronics companies. My areas of interests are video and image processing, high speed data transfer on FPGAs and microprocessors & embedded systems. My ultimate career goal is to be part of world’s leading technology suppliers in which I can work with highly qualified engineers while making significant contributions to my company.

# Education

### september 2017 - present

## Doctor of Philosophy in Electronics Engineering/ Gebze Technical University, Gebze

**Project:**

* ELE510 Advanced Digital Logic Design: Instruction Set Extension for a RISC CPU

### September 2010 – september 2013

## Master of Science in Electrical and Electronics Engineering/ Bilkent University, Ankara

**Thesis:** Finite Element Method Based Simulations of Low Frequency Magnetic Field in Seawater

**Projects:**

* EEE530 Digital Communication Theory: Pulse Design for GSM/EDGE. Pulse shape for binary pulse amplitude modulation with fc:1.8Ghz and max pulse duration:40 microseconds
* EEE519 Power Electronics: DC - DC converter. Step-up(boost) converter designed and built with LT1072, in:10v to 18v, out: 24v
* CS551 Pattern Recognition: Optimizing K value of Expectation Maximization initialization
* EEE558 Electroacoustic Transduction: 700Khz transducer designed and measured in air & water

### September 2005 – september 2010

## Bachelor of Science in Electrical and Electronics Engineering/ Bilkent University, Ankara

**Projects:**

* EEE492 Senior Project II: Non-parametric position estimation techniques (k-NN and support vector)
* EEE491 Senior Project I: Underwater Acoustic Telephone. Building and testing an underwater acoustic telephone for voice communication
* EEE211 Analog Electronics: Amplitude Modulation Superheterodyne Transceiver (TRC-10). Building and testing an analog transceiver operating at amateur radio frequency band (d.c. to 30Mhz)

# Experience

### september 2016 – present

## Senior Digital Design Engineer / Aselsan Inc., Ankara

**Technical duties:**

* Maintenance and development of FPGAs for more than six projects
* Design of video and image processing algorithms on FPGA for Thermal (IR), Nigh Vision and Day-TV cameras in VHDL/Verilog
* Design of high speed data transfer interfaces such as 1Gbps/100Mbps Ethernet, PCI-express and XAUI
* Design of low speed communication interfaces such as UART, SPI, I2C and BISS in VHDL/Verilog

**Managerial duty:**

* Leading around ten FPGA design engineers

### february 2013 – september 2016

## Digital Design Engineer / Aselsan Inc., Ankara

* Owned full-cycle development of FPGAs including implementation, functional verification, synthesis, static timing analysis and board level integration
* Joined schematic and layout design for a 18-20 layer PCB consisting of at least 100 different individual components

**Board level debug of boards:**

* High speed transceivers SFP, XFP and high speed interfaces 10G/XAUI, XFI, SFI
* Camera interface board containing Cyclone V FPGA, LVDS transceivers, RS422 transceivers, 100Mbps Ethernet (RGMII phy), LPDDR2 SDRAM
* Fiber optic interface board containing Spartan-6 FPGA, LPDDR2 SDRAM, camera link receivers
* Camera interface board containing Stratix V FPGA, PCI-Express, DDR3 SDRAM, 1Gbps Ethernet (SGMII phy)

### september 2010 – february 2013

## System Design Engineer / Bilkent Underwater Acoustics Technologies Research Center, Ankara

**Duties on designing a counter measure unit to torpedoes activated with change of electrical field:**

* Schematic and layout design of a D-type amplifier and environmental condition tests of the board
* Generation of PWM signals on FPGA (Basys2 demo board) to drive D-type amplifier in DC and AC mode
* Design and simulation of coils on Comsol Multiphysics
* Magnetic field measurement with Bartington Spectramag-6 magnetometer and processing signals on MATLAB

# Trainings and Seminars

* C++ Programming for Embedded Systems, Doulos December 2018
* Networking Fundamentals - CCNA Start, Kuantek November 2018
* Incremental Compilation on Altera/Intel FPGAs, Kuantek February 2018
* Static Timing Analysis on Altera/Intel FPGAs,Kuantek February 2018
* C Programming for Embedded Systems, Doulos September 2017
* Embedded Design for Intel SoC FPGAs, Doulos April 2017
* Verilog, System Verilog & UVM Fundamentals, Anka-Sys January 2017
* The Intel SoC FPGA Developer Forum (ISDF) September 2016
* DO-254 Based FPGA Digital Design Flow, PLC2 February 2016
* Building Gigabit Interfaces is Altera Transciever Devices, EBV April 2015
* Introduction to QuartusII, EBV January 2014
* Mentor Graphics DxDesigner Training, CDT April 2013

# Skills

* **Programming Languages**

Java, C/C++, Assembly, Python, Matlab, GNU/Octave

* **Hardware Description Languages**

VHDL, Verilog, System Verilog

* **Board/PCB Design Tools**

Mentor Graphics DxDesigner, Proteus Isis

* **Software & EDA Tools**

Intel/Altera QuartusII/Prime, Xilinx ISE/Vivado, Mentor Graphics Modelsim, Mentor Graphics HDL Designer, Tortoise SVN, Pspice/5Spice/LTSpice, Comsol Multiphysics, Rational DOORS, SAP, Kanboard, Oracle Primavera

* **Operating Systems**

Microsoft Windows 7/10, Apple macOS, GNU/Linux (Raspbian)

* **Languages**

Turkish (Native), English (Fluent), German (Basic)

# Activities

* Electronics hobby projects: Arduino Uno, Raspberry Pi
* Table tennis, Bowling, Running, Watching movies with my family, Watching football