**FATİH EMRE ŞİMŞEK**

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**Summary**

FPGA digital design engineer, 4 years of experience on FPGA design, 1 years of experience on digital board design.

* RTL design with Verilog, VHDL.
* Altera Quartus II, Qsys, Signal Tap Logic Analyser, PowerPlay Early Power Estimator, TimeQuest Timing Analyser tools.
* Xilinx ISE, Vivado tools.
* Schematic capture and PCB layout design.
* Mentor Graphics Design Architect, Board Station, HDL Designer, ModelSim tools.
* Assembly, Python, C and JAVA experience.
* Matlab and Octave experience.
* PSpice-5Spice experience.
* COMSOL Multiphysics experience.
* Hands on experience with lab equipments such as oscilloscopes, signal generators.

**Experience**

**Digital Design Engineer** Feb 2013 to Present

**ASELSAN Inc.** － Ankara, Turkey

* Owned full-cycle development of FPGAs including implementation, functional simulation, synthesis, static timing analysis, board level integration:
  + Implemented communication interfaces such as UART, I2C, SPI, and BISS on FPGAs.
  + Implemented multiport interface for XAUI PHY, Ethernet MAC to stream data via fiber optic interface.
  + Implemented analogue video decoder and encoder in PAL and PAL Square format on FPGAs
  + Implemented thermal and night vision video processing on FPGAs.
* High speed electronic board design including schematic and PCB layout:
  + Joined hardware design for 18-20 layer PCB boards consisting of at least 100 different individual components.
  + Performed hardware design of an electronic board which is used to test the interfaces of an electronic board which has Cyclone V FPGA on it.
  + Board level debug of high speed transceivers SFP, XFP and high speed interfaces 10G/XAUI, XFI, SFI.
  + Board level debug of a camera interface board containing Cyclone V FPGA, LVDS transceivers, RS422 transceivers, DDR3 SDRAM.
  + Board level debug of fiber optic interface board containing Spartan-3 FPGA, LPDDR2 SDRAM, Camera Link receivers, clock generators.

**System Engineer** Jul 2010 to Sept 2012

**Bilkent Underwater Acoustics Technologies Research Center** － Ankara, Turkey

* Design and simulation of coils via COMSOL Multiphysics, and realization of the coils.
* Design and realization of D-type amplifier.
* Measuring the magnetic field via Bartington Spectramag-6 magnetometer and filtering in MATLAB.
* Environmental condition tests of the coils and pcbs.

**Intern,** Jun 2009 to Jul 2009

**HAVELSAN Inc.** － Ankara, Turkey

* Intranet, internet and network switch maintenance of the company.
* Designed a chat program on JAVA via socket programming.

**ASELSAN Inc.** － Ankara, Turkey

* Worked on Microchip PIC programming with C: Reading analogue temperature sensor and displaying it on 7-segment.

**Education**

**Phd., Electronics Engineering** 2017 to Present

Gebze Technical University － Gebze, Kocaeli

**M.S.**, **Electrical & Electronics Engineering,** GPA: 3.03 / 4.002013

Bilkent University － Ankara, Turkey

Master’s Thesis: Finite Element Method Based Simulations of Low Frequency Magnetic Field in Seawater

**B.S.**, **Electrical & Electronics Engineering,** GPA: 3.04 / 4.002010

Bilkent University － Ankara, Turkey

**Foreign Languages**

* English: TOEFL IBT: 87 (Jan 2010)
* German (Basic)
* Spanish (Basic)

**Accomplishments**

* Three High Honour and one Honour Certificate of Bilkent University.
* Studied 2nd year tuition-free at Bilkent University as result of outstanding achievement scholarship (GPA:3.95/4.00).

**Certifications**

* Apr 2015, Building Gigabit Interfaces in Altera Transciever Devices hands on training days.
* Jun 2014, Introduction to Quartus II, ALTERA & EBV hands on training days.