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 / 4.00 2013
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 / 4.00 2010
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.