ÇAĞIL GÜMÜŞ

Location: Hamburg, Germany

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EXPERIENCE

Deutsches Elektronen-Synchrotron DESY   March 2017 - Present

FPGA Developer   *Hamburg, Germany*

· Implemented high-speed ADC and fast-feedback DSP solutions for LLRF control of superconducting cavities in next-generation particle accelerators

· Lead FPGA Developer: Architected and implemented firmware for the open-source motion controller used in PETRA IV beamlines.

· Developed the complete Board Support Packages (BSP) for multiple Xilinx Zynq Ultrascale+ MP-SoC famiy custom boards, enabling system interfaces (PCIe, DDR, Ethernet, I2C/SPI) and ensuring seamless PS-PL integration within a Yocto-built Embedded Linux environment

· Initiated the development and architected the core of the open-source DESY-MSK FPGA framework (FWK) and related IP-core libraries to accelerate scientific research and development.

· Provided technical education and expertise on MicroTCA standards and implementation within the open-standard community

· Deputy Firmware Team Lead: Helped steer firmware projects, proactively managed issue tracking and resolution, and ensured the team stayed coordinated and productive.

Yeditepe University   December 2009 - October 2010

Research Assistant at Biomedical Engineering Department   *Istanbul, Turkey*

· Worked on the project "*Accelerated Phosphorus MR Spectroscopic Imaging of Human Brain Using Compressed Sensing Reconstruction*"

· Responsible from the laboratory course "Biomedical Image Processing"

· Publication: "International Society for Magnetic Resonance in Medicine Conference" (19-26 April 2013, Salt Lake City / USA)

Prysmian Group   June 2011 - July 2011

Intern   *Budapest, Hungary*

· Erasmus+ Traineeship Program

· Involved in Mid-High Voltage Cable Production

· Fault analysis for the end result of the the production chain

EDUCATION

Hamburg University of Technology, Germany   *2013 - 2016*

M.Sc. in Microelectronics & Microsystems Engineering

Thesis Title: *Analysis and Measurement of Errors Occurring in High Speed Wired SPI Communication, Possibilities of Improvement with Error Correction Codes on FPGA*

Publication: 13th IASTED Biomedical Conference (Innsbruck, Austria, 20-21 Feb. 2017)

Overall GPA: 1.78 (German Grading System)

Yeditepe University, Turkey   *2007 - 2012*

B.Sc. in Electrical & Electronics Engineering

Thesis Title: *Implementation of Various Guitar Effects Using Texas Instruments-DSK6713*

Overall GPA: 3.27 (4.00 Grade System)

TECHNICAL SKILLS

Hardware Description Language	VHDL, Verilog/System-verilog
Programming Language	C/C++, Python, MATLAB, TCL, Bash
Technologies	Xilinx RFSoC, Xilinx Zynq UltraScale+ MPSoC, Xilinx 7-series, Linux, MicroTCA, IPMI, AXI4, PCI Express, Ethernet, DDR
Tools	Xilinx Vivado/ISE/HLS, Modelsim, CocoTB, Git/Gitlab, svn, Yocto/Bitbake, Docker, Jenkins, Redmine,

LANGUAGES

English	Full professional proficiency
German	B1-B2 Level
Chinese	Beginner Level
Turkish	Native Tongue