

BIROL CAPA

Software Development Engineer at Siemens

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📍 Istanbul, Turkey

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EXPERIENCE

Software Development Engineer

Siemens

📅 July 2014 - Ongoing

📍 Istanbul, Turkey

🌐 <http://www.siemens.com>

- Developed and maintained a PROFINET Frame Capture Tool. (C#, C++, C)
- Created an API from scratch for PROFINET Frame Capture Tool. Test Automation colleagues can fully automate their tests with this API. (C#, C++, C)
- Wrote new PROFINET features for Wireshark (C): <https://code.wireshark.org/review/#/q/owner:%22Birol+Capa%22>
- Designed scripts to build all user documents automatically. Nobody needs to spend effort for updating user documents anymore. (C#, Latex, Doxygen, Html, Css)
- Wrote unit and integration tests from scratch for all the legacy code and new code. (C#, NUnit)
- Developed a network traffic replayer tool for automating unit and integration tests (C#): <https://gitlab.com/biolcapa/network-traffic-replayer>
- Wrote a wrapper tool for getting quality measurements. Time for getting quality measurements decreased from one hour to five minutes. (C#, FxCop, Source Monitor, PMD, XML, XSD)
- Designed a tool for reporting the inventory which is used by a developer. Nobody needs to send e-mails for finding a hardware anymore. (C#, XML, XSD)

Development Engineer

Teknotel Elektronik*

📅 Dec 2010 - Nov 2013

📍 Istanbul, Turkey

🌐 <http://www.teknotel.com.tr/en>

- *Teknotel Elektronik manufactures embedded industrial solutions.
- Wrote "Online Map" and "Reporting of Parking Statistics" parts of "Camera Based Parking Guidance" project. (C#)
 - Built an embedded device from scratch which communicates via TCP/IP for LED Panels and which can be remotely updated by using TFTP. (C, STM32, lwIP, SPI, RS232)
 - Wrote an embedded device configuration tool to configure IP, Gateway and MAC Address of the device. (C#, RS232)
 - Designed and built all the hardware except microcomputer of "Camera Based Parking Guidance" project from scratch. (Mentor Graphics)
 - Redesigned all the hardware of an existing intersection controller project. (Mentor Graphics)

STRENGTHS



Well Organized

Always make plans, keep things structured and always on time.



Knowledge Sharing

Among people and communities: a Blog writer, a Wireshark Community contributor

LANGUAGES

Turkish

Native



English

Advanced



German

Intermediate



CERTIFICATES



iSAQB

Certified Professional for Software Architecture Foundation Level



Diaspar Software Services

Test-Driven Development



PROCENTEC

Certified PROFINET Engineer



ECB Education Company Berlin GmbH

Object-Oriented Programming and Design Patterns



Siemens

Secure Coding in C and C++

OTHER PROJECTS

- A Rapid PLC-to-Cloud Prototype for Smart Industrial Automation
Designed a gateway device between a Siemens S7-400 PLC and the Amazon Web Services (OPC-UA, MQTT, Python)
- Fan and Plate System Control by MATLAB xPC Target
Designed an experimental setup that can easily programmed by Simulink
- Unofficial Teaching Assistant of Introduction to Robotics
Created a model to support the course by using: Virtual Reality Toolbox, MATLAB and CAD
- Balancing Robot
System Modeling and Simulation, Hardware Design

EDUCATION

B. S. in Control Engineering **3.55** / 4.00
[Istanbul Technical University](#)
📅 Sept 2006 - June 2011

Minor in Mechanical Engineering **2.91** / 4.00
[Istanbul Technical University](#)
📅 Sept 2008 - June 2012

TECHNOLOGIES

Programming, Scripting, Markup Langs. - Freq. user of

C# C XML XSD

Programming, Scripting, Markup Langs. - Familiar with

C++ Java Python HTML CSS SQL

MCUs - Used in the past

STM32 STM8 ATmega128 ATmega16 PIC16F
PIC18F

PLCs - Used in the past

Siemens Simatic S7-200 Siemens Simatic S7-300/400

Communication Protocols

Ethernet PROFINET TCP/IP UDP TFTP UART
CAN SPI I2C USB

Simulation and Computational Programs

MATLAB Mathematica Mentor Graphics TIA Portal
Altium Designer Proteus ISIS SolidWorks AutoCAD
VRML MathCAD

SDLC TOOLS

High Level Design

Altova XML Spy

Source Control

TFS Git SVN Gerrit Code Review

Unit Testing

nunit

Documentation

doxygen Latex Markdown

Code Quality Tools

ReSharper FxCop SourceMonitor
PMD - Source Code Analyzer Atomiq