

MEHMET ALİ ŞAHİN

PROFILE

I am a software engineer with 13 years of experience in embedded software and windows/linux application software development. I have quite long experience in defense industry & semiconductor industry. As a software engineer, my main ambition is to improve myself further.

I am experienced in C++11/20, Ada, C & C# programming languages in many software development environments. I am experienced in embedded system software with single/multi core DSPs/MCUs, Software Development Life Cycle, Object Oriented Programming, Real Time Operating Systems, Unified Modelling Language, Design Patterns, State Machines, Data Structures, Multithreading & Asynchronous Programming, Compiling and Linking processes, Build Systems, IPC, Device Drivers, APIs, HAL, IRQs & ISRs, using debugging tools in many projects. I also have embedded linux experience in different projects. I am actively using software version tracking tools like Git & Tortoise SVN. For Agile sw development, I am actively using Atlassian tools like Jira, Jenkins & Confluence.

I have high level domain knowledge about Semiconductor Testing & Automation, industrial usage of SECS/GEM standards (E5,E30,E37,E39,E40,E87,E90,E94), interfacing with Wafer Probers (TEL OCTO/PRECIO, UF2000 & EG4090) & MES systems. Also, I have domain knowledge about Link16-Tactical Data Link & non-C2 systems, electro optical/thermal imaging systems, laser defense systems & INS/GPS systems. Also have knowledge about hardware test setups/ATEs. I have graduate level electronics hardware design and debugging skills.

I am experienced in many CPU/MCU/soft-CPU architecture like TI C6000 DSP family, TI C2000 Delfino MCU family, Microsemi SmartFusion2, NXP i.MXRT1050, TI Tiva MCU. I know many communication protocols like RS422/485/232, TCP/IP, MilStd1553, Arinc429, UART, I2C, SPI, CANBus, GPIB, OneWire, NMEA since I used them in many different projects.

I have a lot of experience in GUI development with VisualStudio, QT, LabwindowsCVI since I also develop simulators & test GUIs. I am also experienced in scripting languages DCL, Batch, Bash & markup languages HTML, XML, XAML & also have some knowledge about web APIs. I am eager to learn new technologies and information. Therefore, I attended many on-site educations, and in my free time, I try to increase my knowledge via Cppcon videos, Medium, sw channels in Youtube etc. platforms.

EXPERIENCE

ASML N.V.

Veldhoven, NL

Senior Software Engineer

October 2023 - Present

- sw design and development for 'Machine Conditioning' sw cluster of ASML in a Linux RHE/Winriver Linux OS environment
- test driven development (unit tests & integration tests with GoogleTest framework)
- sw integration activities on TestBench or Proto setups
- writing requirements, design, tests & test results documents
- daily usage of development tools like git, jira, jenkins, confluence,
- working in SAFe environment within a software only team

C/C++17 Boost IPC Client/Server Model Make GoogleTest Linux git python DDF Tics Clearcase DesignPatterns Scripting UML CI/CD SECS EDA VModel Simulators SAFe



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- 05 January, 1986

SKILLS

Programming Languages:

C++11/20, C, Ada, C#

Scripting Languages: DCL, Batch, Bash, Python

Operating Systems:

RTOS (VxWorks 653 & TI-RTOS), Desktop (Windows & Linux), Baremetal, Embedded Linux

Domain Knowledge:

Semiconductor manufacturing systems, Tactical Data Link systems, Electrooptical imaging & targeting systems, Laser range finder systems, INS/GPS systems

SDLC Processes: V Model, CMMI

Developer Tools: Git,SVN,Clearcase, Jenkins, Jira, Confluence, Sonarqube

Processors:

TI C6000 Family (C6678), TI C2000 Family (Delfino & Piccolo), NXP i.MX RT1050, PowerPC

Comm Protocols:

Ethernet(TCP/IP, UDP), RS232/422/485, Uart, I2C, SPI, CanBus, GPIB, MilStd1553, Arinc429

Msg Exchanging Protocols:

SECS/GEM (via TCP/IP), Link16 TDL (via Radio Frequency)

IDEs: Visual Studio, Gnat Studio, Eclipse, CCS, MCUXpresso, IAR, Qt, LabwindowsCVI / Labview

Other Tools:

Microsoft Office, Teams

Nexperia / ITEC B.V.

Nijmegen, NL

Principal Software Engineer

Sep 2021 - October 2023

- sw design and development for 'Parset' semiconductor testing equipment & 'Awacs' data collection & wafermap analysing system
- sw integration with HOST (via SECS/GEM interface) and MES systems (via SOAP interface) and also automation of wafer probers (over SECS/GEM and GPIB links)
- test driven development (unit tests & integration tests with BoostTest & Aunit frameworks)
- gathering requirements from customers, and turn it into a software solution
- sw/hw integration activities inside semiconductor production sites
- writing sw requirement and sw design documents
- daily usage of development tools like git, jira, jenkins, confluence, sonarqube
- working in agile environment within a multidisciplinary team

C++20 Boost ASIO' Ada CMake ATL & Microsoft COM IPC WSDL SOAP Win32API
Multithreading DesignPatterns Scripting UML CI/CD SECS/GEM TestAutomation&Integration
Simulators Agile

MilSOFT Yazılım Teknolojileri A.Ş.

Ankara, TR

Senior Software Engineer

March 2021 - Sep 2021

- model based sw design and development in Link 16 Tactical Data Link System working on top of PowerPC embedded data link processor
- sw development for "non-C2" systems running on top of VxWorks 653 RTOS on many partitions
- Mil-Std-498 based software development, low level requirement development and unit testing
- integration activities with Command & Control Systems
- writing SRS & SDD documents (big familiarity with NATO Stanag documents)
- working in SAFe environment with daily scrum meetings

VxWorks653 RTOS C++ Multithreading OOP UML DesignPatterns Scripting TDL - Link16
Doors CI/CD Simulators SAFe

Aselsan MGEO Division

Ankara, TR

Senior Embedded Software Engineer

Sep 2015 - March 2021

- embedded software development for imaging & targeting gimbal systems (electro optical FLIR systems) & hand-held laser range finder & target locator / designator systems
- embedded software running on top of TI RTOS (or baremetal) with C/C++11 for multicore DSPs/MCUs
- designing & developing whole system management & communication software (integrating hardware components to software, defining & controlling RTOS tasks, controlling shared memory usage over DSP cores, implementing symbology & tracking software details, controlling of 3 different camera sensors, controlling all the logic & the communication of these sub units, and controlling of sub modules like DMC, GPS, SPI/I2C/UART based temperature/pressure sensors, motors, E2PROM etc., logging system internals...)
- testing embedded software with debugging tools
- simulator / GUI software development with QT (C++) or Visual Studio (Visual C++ / C# - WPF framework)
- scripting, documenting, maintaining & researching
- documenting, maintaining & researching

TI-RTOS C/C++ C# WPF OOP UML DesignPatterns Linux QT Bash Baremetal CI/CD
Simulators Agile ThermalCamera ImagingSystems

TRAININGS

- 1 - Ada Advanced Training - Nijmegen, 2021
- 2 - Ada Fundamentals Training - Nijmegen, 2021
- 3 - Embedded Linux Training - Nazım Koç, Ankara, 2019
- 4 - Software Architecture Design - Bedir Tekinerdoğan, Ankara, 2019
- 5 - Intel OpenVino Workshop, Ankara, 2019
- 6 - Matlab – Deep Learning Workshop, Ankara, 2019
- 7 - C++ Programming for Embedded Systems - Doulos, Ankara, 2018
- 8 - Advanced C# Programming Language - Salih Demiroğ, Ankara, 2018
- 9 - Parallel Programming with NVIDIA CUDA, Ankara, 2018
- 10 - System Calls in Linux - Nazım Koç, Ankara, 2017
- 11 - C Programming for Embedded Systems - Doulos, Ankara, 2016
- 12 - Labview Training - NI Turkey, Ankara, 2013

DIPLOMAS

- 1 - Hacettepe University Electrical&Electronics Engineering - BSc. (2010 - GPA 3.18/4.0)
- 2 - Ayrancı Anatolian High school (GPA 4.91/5.0)

LANGUAGES

Turkish	Native
English	Professional
Dutch	Beginner

INTERESTS

Travelling Gaming
Fitness e-Sports
Skiing Comics

Systems Engineer & Software Developer in HW Test

July 2010 - Sep 2015

- user acceptance test (UAT) / environmental test (ET) software design & development to test the functionality of mass production units of INS/GPS & autopilot systems. This software manages custom test environment with many test hardwares like power supplies, oscilloscopes, load modules, digital multi meters, signal generators, burn-in chambers, rate tables, vibration platforms etc. & all of the communications of these hardwares over RS422/232 or ethernet. It displays a responsive GUI for test operator to see status of all test environment hardware & messages of the system under test (over RS422/232, milstd1553, arinc429 or ethernet etc.). It verifies the functionality of a specific unit that is under test along with user acceptance test specifications and It creates a detailed test log for all environmental or acceptance test details.
- planning test scenarios after gathering client expectations & writing UAT/ET procedures
- building a custom automated test environments (ATE) consisting of test hardwares.
- analyzing test results, documenting, maintaining & researching

C

C#

LabwindowsCVI

TestStand

VisualStudio Forms

Matlab

ATE

Test Hardware