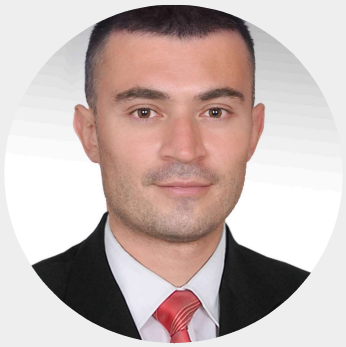
MEHMET ALİ ŞAHİN



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Eindhoven / The Netherlands

05 January, 1986

Turkish Citizen

PROFILE

I am a software engineer with 14 years of experience in embedded software and windows/linux application software development. I have quite long experience in defence & semiconductor manufacturing industry. As a software engineer, my main ambition is to improve myself further.

I am experienced in C++11/20, Ada, C, Python & C# programming languages in many software development environments with different toolchains. I am experienced in interface based RPC frameworks / microservices, APIs, IPC mechanisms and also experienced inter-thread-syronization in multithreaded applications. I am experienced in software development metadologies/terminologies like SOLID, 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, Device Drivers, HAL, usage of debugging tools in many projects. I also have a bit embedded linux experience. I am actively using sw version tracking tools (eg. Git, Tortoise SVN & Clearcase) & agile development tools (eg. Jira, Jenkins, Confluence etc.). I have a lot of experience in GUI development with VisualStudio, QT, LabwindowsCVI since I developed many simulators & GUIs. I am also experienced in scripting languages (Python, DCL, Batch, Bash) & markup languages (HTML, XML, XAML) & also have knowledge about web APIs & serialization techniques.
I have very high level domain knowledge about Semiconductor Industry (manufacturing, testing & factory automation processes, industrial usage of SECS/GEM standarts, interfacing with manufacturing equipments, MES systems) and Defence Industry (Link16-Tactical Data Link & non-C2 systems, electro optical/thermal imaging systems, laser defence systems, INS/GPS systems). I also have experience in hardware test setups/ATEs. I have graduate level electronics hardware design and debugging skills. I am experienced in many different CPU/MCU/soft-CPU architectures & many different communication protocols.

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 RHEL/Winriver Linux OS environment with VModel approach by using C++/C/Python languages
- SOA with ASML propietary interface & RPC based sw design environment including many distributed systems (including ASML specific serialization & communication)
- automation / scripting activities with python (not only limited to version 2.7)
- test driven development via GoogleTest framework's unit tests & module tests [mocks, testdoubles, AAA pattern etc])
- sw integration activities on TestBench or ProtoMachine setups
- writing requirements, design, tests & test results documents
- daily usage of development tools like git, jira, jenkins, confluence
- gained domain knowledge about the whole Semiconductor Manufacturing Processes, especially in Lithography Step
- working in SAFe environment within a software-only team

C++11 Boost C Python2.7 Python3.xx SOA IPC via RPC & DDF interfaces Distributed Systems UML DesignPatterns GoogleTest Make Linux Git CI/CD Jenkins Python Scripting Clearcase Tics VModel Simulators SAFe SECS EDA

SKILLS

Programming Languages: C++11/20, C, Ada, Python3.11, C#
Scripting Languages: Python, DCL, Batch, Bash
Operating Systems: RTOS (VxWorks 653 & TI-RTOS), Desktop (Windows & Linux), Baremetal, Embedded Linux
Domain Knowledge: Semiconductor manifacturing 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, Tics
Processors: TI C6000 Family (C6678), TI C2000 Family (Delfino & Piccolo), NXP i.MX RT1050, PowerPC
Comm Protocols: Ethernet(TCP/IP, UDP), OPCUA, 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) systems in a multithreaded environment running on Windows OS with VModel approach by using C++20/Ada languages
- SOA with Nexperia specific interface & RPC based mechanisms and IPC via middleware sw
- automation / scripting activities with python & DCL
- 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)
- additional sw development activities on Win32api based graphical user interface applications
- test driven development (unit tests & integration tests with BoostTest & Aunit frameworks)
- gathering requirements from customers, and turning them into a software solutions
- sw/hw integration activities inside semiconductor manufacturing fabs
- writing sw requirement, design & test documents
- daily usage of development tools like git, jira, jenkins, confluence, sonarqube
- gained domain knowledge about Semiconductor Testing & Factory Automation, industrial usage of SECS/GEM standarts (E5,E30,E37,E39,E40,E87,E90,E94), interfacing with WaferProbers (TEL OCTO/PRECIO, UF2000 & EG4090) & interfacing with TurrentHandlers (ASM) & MES systems
- working in agile environment within a multidisciplinary team

C++20 · Boost · ASIO' · Ada · CMake · SOA · IPC via Microsoft COM & ATL · RPC via SOAP · Win32API · Multithreading · OSIModel · DesignPatterns · BoostTest · WSDL · DCL Scripting · UML · CI/CD · Jenkins · Sonarqube · VcPkg · SECS/GEM · Simulators · Agile · MES

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 with C++ language
- 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)
- gained domain knowledge about Link16 - Tactical Data Link & non-C2 systems

C++11/98 · VxWorks653 RTOS · Multithreading · OOP · UML · DesignPatterns · Scripting · Doors · CI/CD · Jenkins · Simulators · SAFe · TDL - Link16

Aselsan MGEO Division

Ankara, TR

Senior Embedded Software Engineer

Sep 2015 - March 2021

- embedded sw development for imaging & targeting gimbal systems (electro optical FLIR systems) & hand-held laser range finder & target locator / designator systems
- embedded sw development running on top of TI RTOS or baremetal with C/C++11 languages 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
- gained domain knowledge about electro optical/thermal imaging & laser defence systems

C/C++11 · TI-RTOS · C# · WPF · IPC via SharedMemory · OOP · UML · DesignPatterns · Linux · QT · Bash · Baremetal · CI/CD · Simulators · Agile · ThermalCamera&ImagingSystems

TRAININGS

Advanced Python - Veldhoven, 2024
GoogleTest Framework - Veldhoven, 2024
Ada Advanced Training - Nijmegen, 2022
Ada Fundamentals Training - Nijmegen, 2021
Embedded Linux Training - Nazım Koç, Ankara, 2019
Software Architecture Design - Bedir Tekinerdoğan, Ankara, 2019
Intel OpenVino Workshop, Ankara, 2019
Matlab – Deep Learning Workshop, Ankara, 2019
C++ Programming for Embedded Systems - Doulos, Ankara, 2018
Advanced C# Programming Language - Salih Demiroğ, Ankara, 2018
Parallel Programming with NVIDIA CUDA, Ankara, 2018
System Calls in Linux - Nazım Koç, Ankara, 2017
C Programming for Embedded Systems - Doulos, Ankara, 2016
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

Aselsan MGEO Division

Ankara, TR

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
- gained domain knowledge about INS/GPS systems and also hardware test setups/ATEs

C C# Labwindows CVI Labview TestStand VisualStudio Forms Matlab ATE Test Hardware