

# MEHMET ALI SAHIN

## PROFILE

I am a software engineer with 15 years of experience in embedded sw and (windows/linux) application sw 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, Python3+, C, Ada & C# programming languages in many sw development environments with different toolchains. I am experienced in interface based RPC frameworks / microservices, APIs, IPC mechanisms and also experienced inter-thread-synchronization in multithreaded applications. I am experienced in software development methodologies/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 standards, 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 LinuxOS (RHEL8/WindowsLinux6) environment with VModel approach by using C++/C/Python languages
- SOA with ASML proprietary interface & language agnostic RPC based sw design environment including many distributed systems and serialization & communication among them
- 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 so called 'TestBench' / 'ProtoMachine' hardware setups
- writing requirements, design, tests & test results documents
- daily usage of development tools like git, jira, jenkins, confluence
- managing activities for the outsourced projects & guiding/coaching of juniors & newcomers
- gained domain knowledge about the whole Semiconductor Manufacturing Processes, especially in Lithography Step

C++11/17 Boost C Python2.7/3.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 OPCUA SECS EDA



- 📞 +31 6 856 041 85
- ✉️ memoally@hotmail.com
- 📍 Eindhoven / The Netherlands
- 🎂 05 January, 1986
- 🇹🇷 Turkish Citizen

## 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 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, 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
- managing activities for the outsourced projects & guiding/coaching of juniors & new comers
- 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

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.S.

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

**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