Mustafa SENTURK

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Contact

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Key Skills

Programming Languages & Frameworks:

- C#
- C++
- JavaScript
- Python
- .NET
- ASP NET Core
- WPF
- ReactJS

Software Development & Engineering:

- Software Architecture Design
- Object-Oriented Programming
- Code Quality & Best Practices
- Version Control (Git)
- NuGet Package Development & Publishing
- Legacy Code Modernization
- Problem Solving & Algorithm Design

Mathematical & Scientific Computing:

- Mathematical Modeling
- Applied Mathematics

Soft Skills & Other:

- Technical Writing & Communication
- Mentorship & Knowledge Sharing
- Agile Mindset
- Continuous Learning & Improvement
- Research & Development
- Independent Project Management

Desktop and Backend Software Developer with a strong background in Applied Mathematics & Computer Science. Currently architecting and developing robust backend systems for an AI start-up consist of orchestration of docker containers, PostgreSQL, Elasticsearch, API servers, and sophisticated search functionalities. Concurrently contributing to Adeko Technologies, improving the software quality and solving critical problems. Had experience in domains across maritime technology, civil service, design engineering and academic research. Passionate about clean code, scalable architecture, and continuous learning, eager to contribute a deep technical skillset to an innovative development team.

Education

2024 – 2024
Robot Dreams
Microservices Architecture Bootcamp

2022 – 2023
Bilge Adam Academy
Boost Star Developer Bootcamp – full stack development

2020 – 2023
Piri Reis University • Istanbul
MSc in Computational Science and Engineering

- ➢ Developed a novel method to integrate probabilistic distributions as transition equations into Delay Differential Equations (DDEs) models.

2006 – 2014
Istanbul technical University • Istanbul
BSc in Naval Architecture and Marine Engineering

Publications

- ➢ Aybar, O.Ö., Şentürk, M., (2023). “Implementation of a triangular probabilistic distribution for optimal parameterization of the SEIR model recovery rates with delay”, Chaos: an Interdisciplinary Journal of Nonlinear Science, https://doi.org/10.1063/5.0164226.

Experience

July 2024 - Present
Software Developer • Adeko Technologies • Bursa

- ➢ Developed geometric algorithms and parallel programming solutions.
- ➢ Gave presentations on software design principles, clean code practices and programming paradigms.
- ➢ Engineered Protobuf file serialization and parallel programming solutions for CabinCad.
- ➢ Improved exception handling and debugging capabilities of CabinCAD, while developing new features.

Published Packages

SiUnitsArithmetic
https://bit.ly/siunits-lib

FloatingPointControl
https://bit.ly/fpc-wpf

Links and Websites

Blogs
https://medium.com/@senturkmus

GitHub
https://github.com/kzlsahin

LeetCode
https://leetcode.com/kzlsahin/

Languages

Turkish – native speaker
English – C2 Proficient
Arabic - Elementary

Societies

.NET Foundation • Member
https://dotnetfoundation.org/

The Coderverse • Developer
github.com/thecoderverse

Activities and Interests

Cycling
Archery
Social history
Sketch drawing
Philosophy of science
Programming Paradigms

Sept. 2024 - Present
Backend and Cloud Architect • Aiksir AI Technologies Co. • Istanbul

- ➢ Designed and developed the backend infrastructure and services of this start-up product.
- ➢ Utilized Docker containers and Make commands to automate deployments.
- ➢ Integrated Elasticsearch and PostgreSQL DBs and developed search and auto-complete endpoints.
- ➢ Developed Postman environments for manual testing and created unit tests using the MSTest framework.
- ➢ Developed middleware for in-memory caching and monitoring.

Oct. 2022 - June 2024
R&D Software Developer • Mesh Engineering & Software Co. • Istanbul

- ➢ I architected a new CAD/CAM analysis software in WPF, implementing the command and memento design patterns, then developed a functioning prototype of the software.
- ➢ Engineered and implemented new features for 3D modeling and FEA Analysis Software in WPF and implemented backend bindings.
- ➢ Developed a software for Rhinoceros as a plug-in using .Net C#, containing modeling tools for ship structure and specific geometries, with exporting capabilities to transfer the data to a finite element analysis software.
- ➢ Debugged and enhanced a C++ wrapper code base for 3D geometry meshing
- ➢ Led the re-architecture of a software application code base, into an add-in architecture. (https://bit.ly/re-architecting)
- ➢ Innovated a solution for meshing non-manifold geometries in RhinoCeros and developed algorithms in C#.
- ➢ Optimized type conversion algorithms and reduced time records by 85%.

Feb. 2022 – Oct. 2022
Senior Design Engineer • Soyaslan Design • Istanbul

- ➢ Developed plug-ins for Rhinoceros 3D modeling software.
- ➢ Improved the efficiency of inclining experiments of marine vessels by developing an SPA using React.js.
- ➢ Pursued compliance targets by validating and documenting designs to global industry standards, conducting Stability and Structural Analysis, creating detailed 3D models and 2D drawings for the projects from recreational small craft to large yachts under scope of various standards and flag rules.

March 2015 – Feb. 2022
Maritime Specialist • Ministry of Transport and Infrastructure • Ankara

- ➢ Created preliminary software solutions and proposed projects to improve organizational capabilities.
- ➢ Developed solutions and regulatory texts about the implementation of International Maritime Conventions, statutory rules and regulations.
- ➢ Innovated a project to solve a problem of corrupted data entries in the marine engine registration system, containing products of 810 manufacturers with 15153 distinct serial number formats, reduced to 2433 at the end and implemented a validation for new entries.

- Served as an advisor member of the Turkish delegation at the International Maritime Organization (IMO) in London from 2016 to 2020.

March 2012 – Feb. 2015
Naval Architect • Various Employers • Istanbul
- Delivered special design solutions including hull design, 3D modeling, stability, and structural analysis.

Personal Projects

2024
FloatingPoinControls • bit.ly/fpc-wpf
- Developed a library for floating-point control, compatible with WPF and MVVM pattern.

2023
SIUnitsArithmetic • Developer • https://bit.ly/siunits-lib
- Created a library for dimensional arithmetic, achieving 3.5k downloads.

2022
Inclining Exp. Recorder • Developer • https://bit.ly/IncApp-V3
- Built a SPA using React.js for on-site analysis of experimental records.

2020
Heat Exchanger Simulation • Developer • https://bit.ly/45S39Yu
- Simulated a heat exchanger with PID control using MATLAB and SIMULINK.

2020
Dashboard Application • Developer
- Developed a dashboard application for a call center using JavaScript and Highcharts.js as a freelance project.