Mustafa SENTURK

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Contact

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Key Skills

Critical Thinking
Applied Mathematics

Nacal Archtecture
3D Modeling
Maxsurf - Hull Design
Ship Stability
Strcutural Analysis

Software Development
WPF, MVVM. MVC
OOP Principles
SQLite, MSSQL
ASP.Net Core

C#	Advanced
JS/TS	Advanced
Python	Moderate
React	Moderate
SQL	Moderate
C++11	Moderate
Matlab	Moderate

Links and Websites

Medium:
https://medium.com/@senturkmus

Github:
https://github.com/kzlsahin

LeetCode:
https://leetcode.com/kzlsahin/

Profile

A software developer and naval architect with a background in design engineering and administration. Following his childhood dream, he started his career as a design engineer, and later, joined the civil service as a maritime specialist to gain a broader perspective of the industry. During this time, he designed and developed computational solutions, He also studied machine learning and applied mathematics, and was interested in the philosophy of science and decision disciplines. After seven years of service, he changed his career to pursue his passion for development and innovation. He is developing software solutions since 2019.

Education

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

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

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

Publications

• https://bit.ly/TriangularDistribution
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.

• https://bit.ly/3Pk0yk8
Şentürk, M., (2023), "How I Refactored a Monolithic Legacy Code Base into an Add-In Architecture", Better Programming.

Experience

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

- I conducted architectural design for a new CAD/CAM analysis software in WPF, implementing the command and memento design patterns, then developed a functioning prototype of the software.
- Designed and developed new features for 3D Modelling and FEA Analysis Software in WPF and implemented backend bindings,
- Provided mentorship for my junior developer.

Languages

Turkish – native speaker
English – C2 Proficient

Societies

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

The Coderverse • Developer
github.com/thecoderverse

Activities and Interests

Kickboxing
Archery
Social history
Sketch drawing
Philosophy of science
Programming Paradigms

- Developed a software for Rhinoceros as a plug-in using .Net C#, containing modelling tools for ship structure and specific geometries, with exporting capabilities to transfer the data to a finite element analysis software.
- Took initiative in re-architecting a code base of a software application, transforming it into an add-in (https://bit.ly/3Pk0yk8) architecture.
- Developed an innovative solution for meshing non-manifold geometries in RhinoCeros and developed algorithms in C#.
- Optimized type conversion algorithms and reduced time records by 85%.
- Debugged and improved a C++ wrapper code base for 3D geometry meshing.

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

- Developed plug-ins for Rhinocerso 3D modelling software.
- Improved the efficiency of inclining experiments of marine vessels by developing an SPA using React.js,
- Solved a twin hull interaction problem of a catamaran, applying a third wave into the wave system of the vessel, using Numeca for CFD.
- Pursued compliance targets by validating and documenting designs to global industry standards, conducting Stability and Structural Analysis, Create 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

- Developed solutions and regulatory texts about the implementation of International Maritime Conventions, statutory rules and regulations.
- Preliminary software solutions and offered projects to improve organizational capabilities.
- Innovated a solution for 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 developed a validation for the new entries.
- 2016 - 2020 delegated as an advisor member of Turkish delegation at London, Headquarters of International Maritime Organization (IMO).

March 2014 – Feb. 2015
Design Engineer • Karatas Yacht Design • Istanbul

- Offered special design solutions in line with the customer's requests in yacht projects, performing hull design, 3D modelling, stability and structural analysis.

March 2012 – Feb. 2014
Design Engineer Intern • Soyaslan Design • Istanbul

- Worked on preparing 2D plans and 3D modeling as a designer in various projects. My responsibilities included hull design and modeling, stability calculations and structural analysis.

Personal Projects

Sep. 2023 – Oct. 2023

File Encrypter • Developer • https://bit.ly/3FpjJ6x

Developed a file encrypter/decrypter app using AES algorithm to be able to secure credential files in cloud storage.

June 2023 – present

SIUnitsArithmetic • Developer • bit.ly/3Oj35L8

Developed a NuGet (.Net) library Package for dimensional arithmetic, which has reached 3k downloads score.

Mar. 2022 – Sep. 2022

Inclining Exp. Recorder • Developer • http://bit.ly/IncApp-V2

Single page web application (**SPA**) developed with React.js. It was a solution to make on-site analysis of records from experiments.

Dec. 2021 – Jan. 2022

Dynamic Control Checklist for Marine Surveyors • Developer

Single page application (SPA), a dynamic checklist with legislative filtering and reporting mechanism for the Ministry of Transport to improve workflow efficiency and User Experience of the procedures of the Ship Construction Permission Applications for the Marine Administration.

Sep. 2020 – Jan. 2021

Heat Exchanger Simulation • Developer • https://bit.ly/45S39Yu

Developed a heat exchanger Simulation with PID control (MSc project), an unsteady state dynamic model developed via MATLAB and SIMULINK.

Nov. 2020 – Feb. 2021

Dashboard Application • Front End Developer

Business analysis and a dashboard application for a call center of a company as a freelance with a partner using JavaScript, Highcharts.js and Django at the back-end.

Sep. 2019 – Dec. 2019

Algorithm for Marine Engine Registration • Developer

Created a solution for problem of data corruption during marine engine registration system. The number of distinct serial number formats were reduced from 15153 to 2433 by applying the algorithmic solution to the registered serial numbers.

Sep. 2006 – July 2009

Sailing Boat • Desing/Build • https://denizkurdu1.blogspot.com

Design and construction of a 4.5 m personal sailing boat.