Mahdi Rastegari

.Net Developer | AI Enthusiastic

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About Me

I'm a senior .Net developer with high skills in math, algorithm and machine learning. I am skilled in problem-solving and resource optimization, and also parallelization in both CPU and GPU. I've been part of several web-based and windows based applications, all of which have extensive connections with AI and external hardware. I've managed the software side of CellNama (Slide Scanner System), which is installed in multiple pathology labs with an excellent satisfaction ratio.

I am eager to study and learn new technologies in software and artificial intelligence including ASP.NET Core, .Net MAUI, Xamarin and ML.Net in no particular order. I love exploring new technologies and experimenting with them.

What I'm Doing

Desktop Development
Developing desktop applications using WPF, .Net MAUI and QT C++ for 7 years.

Web Development
Developing website with ASP.Net Core and Blazor for 3 years.

Mobile Apps
Developing Android/IOS application using Xamarin for 3 years.

Artificial Intelligence
Research and Usage AI algorithms or Deep Learning models in enterprise application

Resume

Education

University of Tehran
M.Sc. in Electrical Engineering
2015-2018
Certificate Transcripts

Represent a huristic solution by optimize the beam-alginment problem in anglog beamforming which eventually led to publish two articles.

Isfahan University of Technology
B.Sc. in Computer Engineering
2013-2017
Certificate Transcripts

Desing and implement digital oscilloscope by take advantabge of ARM microprocessor for android OS

Isfahan University of Technology
B.Sc. in Electrical Engineering
2011-2015
Certificate Transcripts

Reduction of patient motion artifacts in Digital Subtraction Angiography (DSA) using image processing and image registration tools

Experience

Software and Algorithm Developer
Basemap
2020 — Present

The major responsibility is to develop new features and optimize the current algorithms in TRACC related products. Task and technologies can grouped into followings:

- Developing a road network analysis software known as TRACC
- Desktop frontend is WPF and the web frontend is Blazor which both connected to ASP.Net core
- Work with importing-exporting GIS files like GTFS, TXC, and ShapeFile in efficient way
- Work with GIS 3rd party library like ArcGIS, ThinkGeo
- Use Test Driven Development to implement the code
- Use git + azure as the core of our DevOps, and also develop custom pipeline as our release pipeline
- Desing and implementing an algorithm for GIS routing
- Optimize the performance of previous algorithms by using Hash Tree and better use of resources like using DirectX and CUDA for processing arrays.
- Developing a website to manage client's licences using ASP.Net Core + Blazor WASM

WPF | C# | Algorithm | ASP.Net Core | Blazor | Parallelism | Git | Azure | AWS

Leading Software Developer
CellNama
2016 — 2020

As the young (but mature enough) software developer had responsibility to implement and lead multiple software to provide Telepathology. Task and technologies can grouped into followings:

- Design and implementation of an expandable scanner controller software.
- Design and implementation of peer-to-peer slide management system capable of Telepathology.
- Design and implementation of a powerful and secure desktop WSI viewer and annotator software.
- Design and implementation of real-time "encrypted" WSI read/write system
- Implementing CUDA-enabled focusing and image pre-processing algorithms
- Implementing an on-the-fly deep learning-based algorithm for cell and nuclei detection during slide scanning.
- Design and implement the Mask R-CNN model in TF to detect the tissue region on slide preview

WPF | Xamarin | C# | ASP.Net MVC | Angular | Tensorflow | SQL Server | CUDA

Junior Software Developer
Dorsa
2015 — 2016

Participation in a large industrial project in Iran, which had very valuable experiences for me, in general, the work I did included:

- Design and implementation of the near real-time software include watch-dog itself
- Design and implementation workflow to read sensor data (ADAM) as well as images from IP Camera.
- Processing the images to detect failure or issues in making steel process by using Edge Detection Technique
- Call external hardware as an emergency alarm when failing detected

WinForm | SQL Server | IP Camera | MATLAB | Image Segmentation and Detection | SVM | RS485 | USB Protocol

Junior Hardware and Software Developer
Omega-IR
2011 — 2015

During my undergraduate studies, I worked part-time in the field of electrical and computer hardware, my experiences include:

- Implementation of a servo-motor controller from Smartphone by using ARM microprocessor
- Implementation of a USB Audio in ARM and its driver in windows to play high-frequency sound
- Implementation of a controller system, which will be turned off or on when receiving SMS by taking advantabge of PIC micro-controller

QT C++ | ARM | PIC | AVR | USB | C# | WinForm

Skills

Programming Language
C#/.Net | C++ | Java | JavaType Script | MATLAB | Python | Flutter/Dart

C#/.Net
WPF | UWP | WinForm | ASP.Net Core | Blazor | Xamarin, Xamarin.Forms | .Net MAUI | WinUI

Database Related
MS SQL | PostgreSQL | MongoDB | Sqlite | SQL Compact | Entity Framework | ADO.Net | Dapper | LinqToSQL

Testing
MS-Test, NUnit, xUnit | MOQ | TDD | UnitTest | Integration Test | Regression Test

Frameworks, Libraries
MVVM, MVVM Cross, PRISM | StructureMap, Autofac | AutoMapper, Mapster, Mapperly | FluentValidation, FluentAssertaion | MediatR | Polly

Others
OOP | ML.Net | TensorFlow | SVM | GIT | AWS | Azure | DevOps | Scrum