

ALEXANDER TSEMA

Senior Full Stack Software Engineer

New York, NY 10024

P. 917 634 0202

alexandertsema.com

at.webdes@gmail.com

github.com/alexandertsema

linkedin.com/in/alexandertsema/en

SUMMARY

Self-motivated creative professional Senior Full Stack Software Engineer seeking a full-time permanent position with challenging projects on the edge of technology. Fast learner, enjoys finding simple solutions to complicated problems, with strong analytical skills, well-organized and a good team player with ability to form excellent working relationships.

TECHNICAL SKILLS

	Advanced	Experience with
Programming Languages	C#; SQL; Python; Typescript; HTML; CSS	Bash; Java; PowerShell
Frameworks and Libraries	ASP.NET Core; ASP.NET MVC; ASP.NET Web API; WCF; SignalR; Entity Framework; Angular; Pillow; Flask	TensorFlow; OpenCV; Keras; ReactJS; Redux; Android SDK; NumPy; WPF; Windows Forms
Databases	SQL Server; MongoDB, CosmosDB	
Tools	Docker; Git; TFS; Octopus; Grafana; StatsD	Umbraco CMS
Web Servers	IIS; nginx	
Architectural Principles	Microservices; SOA; Monolith	
Methodologies	Scrum; TDD; RUP	
Cloud Platforms	Azure	AWS; Google Cloud Platform
OS	Windows; Linux	

WORK EXPERIENCE

Purplebricks Inc

New York, NY, USA

Senior Full-stack Software Engineer

July 2017 – present

Overview: Microservices development; Images processing pipeline development; Full stack web applications development; Cloud Infrastructure maintenance.

Responsibilities: Analyzing project data to determine specifications and requirements; Development use cases of the products; Designing the architecture of the applications; Programming the business logic; Programming front-end scripts; Testing software performance; Development testing routines or procedures; Modifying software programs to improve performance; Managing junior software engineers;

New York City Department of Health and Mental Hygiene, HHP

New York, NY, USA

Software Engineer

August 2016 – June 2017

Overview: Document flow automation system development; Full stack development of web applications and web services; Databases administration.

Responsibilities: Analyzing project data to determine specifications and requirements; Development use cases of the products; Designing the architecture of the applications; Programming the business logic; Programming front-end scripts;

Testing software performance; Development testing routines or procedures; Modifying software programs to improve performance; Providing technical support for software maintenance or use; Documentation design and development procedures; Administration of IIS (applications' security configuration, applications' deployment); SQL Server backups, restores; MongoDB backups, restores, replica set configuration, version upgrading.

Contribution: Introduced ASP.NET WEB API 2, ASP.NET Core, OAuth 2.0, AngularJS, Angular, patterns Repository and Unit of Work, Test Driven Development, UML. Migration from .Net 4 to .NET 4.6 and .Net Core.

Achievements: Successful introduction of bleeding edge technologies and approaches of software development. Successful completion of 2 projects: the application for reports generation; dashboard of servers' performance. Migration environment from MongoDB version 2.6 to MongoDB version 3.4. Upgrading obsolete WCF services for document flow automation to Mongo Driver version 2.4 and .Net 4.6. Currently working on the development of the brand-new flexible document flow automation system with the use of cutting edge software engineering approaches.

MAYKOR, The Automation Department

St Petersburg, Russia

Software Developer

2014 – 2015

Overview: Business processes automation of large enterprises and factories such as Toyota, Aquaphor and governmental organizations; Full stack Development of web applications and web services.

Responsibilities: Development use cases of the products; Designing the architecture of the applications; Designing the architecture of the databases; Programming the business logic; Programming front-end scripts; Testing software performance; Development testing routines or procedures; Modifying software programs to improve performance; Providing technical support for software maintenance or use; Documentation design and development procedures; Administration of IIS and SQL Server Databases.

Contribution: Introduced ASP.NET MVC, Entity Framework, patterns Repository and Unit of Work, Test Driven Development, Agile and UML. Migration to .NET 4.5.

Achievements: Successful introduction of bleeding edge technologies and approaches of software development. Successful completion of 4 projects: the application for automation water filters factory; the application for automation vehicle factory; the update service; the school automation system.

AT Web Design Studio, self-employed

Worldwide

Software Developer

2010 – 2016

Overview: Business processes automation; Full stack development of web applications, web services, mobile applications and desktop applications.

Achievements: Successful completion over 20 projects for clients all over the globe.

EDUCATION

The City College of New York

New York, NY, USA

Master's Degree, Computer Science, GPA 3.6

2015 – 2017

Projects: Stock forecasting using LSTM; Travelling salesman problem using Held Karp and Simulated Annealing algorithms; Graph problems using Dijkstra's and Prim's algorithms; Data clustering using K-means algorithm; Video transmission over UDP using AIMD algorithm; Compiler development.

Graduation Project Work: "Scene Classification for Indoor Localization System"

Overview: This project is a part of fully functioning vision based assistive indoor localization system for visually impaired people. The convolutional neural network was developed to classify high-resolution omnidirectional images to reduce the time complexity of the sample search algorithm. Firstly, the dataset was generated and normalized. Secondly, the CNN's architecture was developed, and global parameters were optimized. Thirdly, the trained model was validated and tested on distinct datasets to ensure generalization ability correctness. The classification accuracy for top 1 candidate class on the testing dataset is up to 89% on average, for top 2 candidate classes is 100%. All work was done using TensorFlow 1.0 with original Python API. All the insides of the CNN were

visualized in the Tensorboard. The results of the research are published in a book “Computer Vision for Assistive Healthcare - Computer Vision to See”.

ITMO University

St Petersburg, Russia

Master’s Degree, Software Engineering

2014 – 2016

Graduation Thesis Work: “The Method of Face Recognition of Race and Ethnicity using MLP”

Overview: The main purpose of this research was to develop a method for the determination of the national affiliation of a person by the image of his face. Firstly, the metrics were developed and formalized, the database was constructed, and all data was normalized and separated into training, validation and test sets. Secondly, was made an analysis of fully connected neural networks and their training methods. Third, determined the most appropriate configuration of the neural network, experimental and empirically selected the most appropriate network settings. Finally, conducted testing of the developed method. Among technologies used were Python with NumPy, Keras with Theano backend. All experiments were made using Jupyter Notebook. All data was visualized with Matplotlib and Seaborn.

Bachelor’s Degree, Computer Science and Computer Engineering

2010 – 2014

Graduation Thesis Work: “Pattern Recognition in Video Streams”

Overview: The main purpose of this research was to develop a method for the hand gestures recognition using web camera. The method was developed with OpenCV using SIFT and SURF descriptors. Studied and analyzed methods of video preprocessing and scene segmentation.

ACTIVITIES

ITMO University

St Petersburg, Russia

The English to Russian Language Translator

2015

The translation of the book “Learning Data Mining with Python” by Robert Layton

The English to Russian Language Translator

2012

The translation of the book “Korn Shell Programming” by Dennis O'Brien

INTERESTS

Computer Vision; Machine Learning; Deep Learning; AI; Signal Processing; Big Data; Algorithms; Hardware.