

Amin Suzani

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Summery

- Three years of experience in developing scalable software systems.
- Solid background in machine learning, computer vision, and cloud technologies.
- M.Sc. and B.Sc. degrees in Computer Engineering.
- Proficient in Java, C++, Python, and MATLAB.

Work Experience

- **Software Development Engineer** at Amazon Web Services, working on a **fast and scalable message queuing web service**, Aug 2015 - Present.
- **Algorithm Design Engineer** at Motion Metrics International Corporation, worked on **designing image-based machine-learning solutions for mining applications**, Sep 2014 - Aug 2015.
- **Research Assistant** at University of British Columbia, worked on **automatic vertebrae localization and segmentation in medical images of spine**, under supervision of Prof. Abolmaesumi, Sep 2012 - Aug 2014.
- **Graduate Teaching Assistant** in University of British Columbia, Sep 2013 - Jun 2014.
- **Teaching Assistant** in Sharif University of Technology, Sep 2009 - Dec 2011.
- Head of a group providing a companion CD, containing Java and C++ codes of basic algorithms, for the book **Data Structure and Algorithm Fundamentals**, won the award of the best academic book of the year in computer science in Iran, written by Prof. Ghodsi, Sep 2009 - Jun 2010.

Education

- **University of British Columbia**, Vancouver, BC, Canada. September 2012 - August 2014.
M.A.Sc. in Electrical and Computer Engineering. **GPA: A (86.3/100)**
Relevant courses: Image Understanding I, Image Understanding II, Parallel Computing, Machine Learning, Advanced Algorithm Design and Analysis, Architectures for Learning Systems.
- **Sharif University of Technology**, Tehran, Iran. September 2008 - June 2012.
B.Sc. in Computer Engineering. **GPA: A (17.76/20)**
Relevant courses: Data Structures and Algorithms, Designing Algorithms, Advanced Programming, Signals and Systems, Engineering Statistics and Probability.

Publications & Patents

- Mahdi Ramezani, **Amin Suzani**, Matthew Baumann, Neda Parnian, Bahram Sameti, Shahram Tafazoli, "Method And Apparatus For Locating A Wear Part in an Image of an Operating Implement", *USA and Canada Patent*, 2015.
- **Amin Suzani**, Alexander Seitel, Yuan Liu, Sidney Fels, Robert N. Rohling, Purang Abolmaesumi, "Fast Automatic Vertebrae Detection and Localization in Pathological CT Scans - A Deep Learning Approach", *Medical Image Computing and Computer-Assisted Intervention (MICCAI)*, 2015.

- **Amin Suzani**, Abtin Rasoulia, Alexander Seitel, Robert N. Rohling, Sidney Fels, and Purang Abolmaesumi, "Deep Learning for Automatic Localization, Identification, and Segmentation of Vertebral Bodies in Volumetric MR Images", *SPIE Medical Imaging*, 2015.
- **Amin Suzani**, Abtin Rasoulia, Robert N. Rohling, Sidney Fels, and Purang Abolmaesumi, "Semi-automatic Segmentation of Vertebral Bodies in Volumetric MR Images Using a Statistical Shape+Pose Model", *SPIE Medical Imaging*, 2014.

Related Projects

- **Amazon SQS extended client**, an open-source web client library built on top of AWS Java SDK, available on Github and Maven, Sep 2015 - Dec 2015.
- **Automatic rock segmentation of mine scenes**, using deep learning, implemented using Caffe and OpenCV libraries in C++, April 2015 - Aug 2015.
- **Automatic missing tooth detection from images of loaders**, using deep learning, implemented using Theano and OpenCV libraries in Python, Oct 2014 - April 2015.
- **Graphical user interface for manual loader teeth localization**, implemented using Qt and PySide libraries in Python, Sep 2014 - Oct 2014.
- **Automatic vertebra localization in medical images**, using deep learning, implemented in Python and MATLAB, Jan 2014 - Aug 2014.
- **Semi-automatic vertebra segmentation in MR images**, using statistical probabilistic models, implemented in MATLAB, May 2013 - Dec 2013.
- **GPU-accelerated model registration**, accelerated the task of registering a probabilistic model to a 3D image, achieved 27x speed-up by distributing the task on GPU using CUDA platform, implemented in C++, Jan 2013 - Apr 2013.
- **Rapid Sudoku solver**, a C++ program for efficiently solving Sudoku by taking advantage of six processing units of a CELL processor, Jan 2011 - Apr 2011.
- **Safa E-mall**, a web-based shopping mall with a hierarchical administration policy, implemented in PHP using Symfony framework, Sep 2010 - Dec 2010.
- **Smart Studio**, an Integrated Development Environment (IDE) including editor, compiler, debugger, and graphical user interface, implemented using Common Language Runtime (CLR) in C#, Jan 2009 - April 2011.

Skills

Programming: C/C++, Java, Python, MATLAB, CUDA, Bash.
Operating Systems: Linux, Windows, Mac OS.

Volunteer Experience

- Vice President of **Graduate Student Association (ECEGSA)** in ECE department of University of British Columbia, May 2013 - Apr 2014.
- Graduate Mentorship Volunteer for **Let's Talk Science** program in Hastings elementary school, Vancouver, Sep 2013 - Dec 2013.
- President of the **Students Council** in Computer Engineering department of Sharif university, Sep 2011 - June 2012.

Hobbies

- Skiing, Camping, Soccer, Listening to audio books.