

Shaghayegh Taheri

Profile

- 5+ years background in Object Oriented Development (Language of choice: C++).
- Experience in Image Processing, Computer Vision, Artificial Intelligence, and Machine Learning.
- Solid background in Electrical engineering (Signal Processing) and Robotics.
- Confident independent learner with strong troubleshooting and problem solving skills.
- Experience in source code management systems such as Git.
- Excellent analytical, interpersonal and communication skills.
- Outstanding academic record, recognized through many awards.

Computer Skills

Coding: C/C++, Python, MATLAB, HTML, CSS, JavaScript, Verilog, VHDL.

Frameworks and Tools: OpenCV, MATLAB/Simulink, Visual Studio, TensorFlow, NumPy, MFC, jQuery, Git, Graphite.

Operating Systems: Windows, Windows Server, Linux (shell scripting), Mac OS X.

Others: Adobe Photoshop, Adobe InDesign, L^AT_EX, OrCAD, Mathematica, AutoCAD.

Work Experience & Relevant Technical Expertise

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| Research Assistant | <p>Concordia University, Montréal, Canada</p> <ul style="list-style-type: none"> ○ Developed a Pipeline in C++/OpenCV & MATLAB for “Robust Nuclei Segmentation in Cytohistopathological Images”, (Published in SPIE Medical Imaging Conference. Link)
- Our work was used to develop a module integrated in CellProfiler (an open-source software developed in Python for biologists). 2013 – 2016 ○ Developed Image Segmentation techniques such as Chan-Vese, Piecewise Smooth, Hierarchical and Roof-Edge Models. (C++/OpenCV) 2015 ○ Implemented an Image Smoothing method using Non-Linear Diffusion (AOS scheme). (C++/OpenCV) 2015 ○ Implemented an Unsupervised Texture Segmentation method using a Non-Linear Diffusion and Statistical Level-Set model. (C++/OpenCV) 2015 ○ Developed a Texture Classification Pipeline. (MATLAB) 2014 ○ Developed a General Shape Object Recognition Software. (Java and C++) 2014 ○ Developed following modules in C++ (Linux) using Graphite 3D modelling software: 2014 <ul style="list-style-type: none"> - “Bounded Biharmonic Weights for Real-Time Mesh Deformation”, - “As Rigid As Possible Mesh Deformation”, - “Iterative Closest Point (ICP)”. |
| Research Assistant | <p>Isfahan University of Technology, Isfahan, Iran</p> <ul style="list-style-type: none"> ○ Integrated Humanoid Robot Vision on a BIOLOID humanoid kid-size platform (C++/OpenCV, MATLAB) 2012 <ul style="list-style-type: none"> - Realtime face, eye and gesture tracking using an embedded webcam, - Implementing various movement detection techniques, - Controlling robot movements through the use of several servomotors and FSR sensors, - Integrating Vision/AI and robot mechanics using robot C++ SDK. ○ Developed a Graphical Game using Threads Programming. (C++/MFC) 2012 ○ Developed Graphical User Interfaces (GUI) using C++/MFC for: 2012 <ul style="list-style-type: none"> - “Client-Server Network Application”, - “Serial Port for Data Transfer”, - “Graphic Performance Improvement Using Bitmap and CDib”, - “JoyStick for Data Transfer”. |

- Implemented and simulated following projects in MATLAB: 2011
 - "Change the Signal Rate to be Used in Different Systems Such as DVD and CD by Using IIR and FIR filters",
 - "Effects of Group Delay and other Features of Filters on Signals in Digital Communication",
 - "DSB-SC and SSB analog modulations",
 - "Quantization Error and Channel Noise in PCM Modulation",
 - "Effect of AWGN on Constellation",
 - "Channel Base on Tapped Delay Line".

Internship **APA Center, Isfahan, Iran** 2012
 "DNS Service Configuration for LAN on Windows and Linux"
[Academic Protection and Awareness Professional Center](#)

Education

Concordia University, Montréal, Canada

M.Sc., Computer Science (GPA: 4.23/4.3) 2013 – 2016

- **Focus:** Computer Vision and Image Processing
- **Thesis Topic:** *Robust Nuclei Segmentation in Cyto-histopathological Images Using Statistical Level Set Approach with Topology Preserving Constraint*

Isfahan University of Technology, Isfahan, Iran

B.Sc., Electrical Engineering (GPA: 3.7/4.0) 2008 – 2013

- **Focus:** Communication Systems
- **Topic:** *Humanoid Robot Vision*

Volunteer

- Event Volunteer for Concordia Student Organizations and Unions: ECSGA, TRAC 2015
- Member of Technical Committee and Referee of Fighter Robot League 2010 – 2011
 Nationwide Robotics Competition, Isfahan University of Technology, Isfahan, Iran
- Editor of Feedback Magazine, Electrical and Computer Engineering Dept., 2010 – 2011
 Isfahan University of Technology , Isfahan, Iran

Awards and Achievements

SPIE Image Processing Conference 2016 – 2017

Concordia Golden Key International Honour Society 2014 – 2016

Concordia Partial Tuition Scholarship for International Students (3,000 CAD) 2014 – 2015

Awarded to top 15% of the faculty and to high achieving graduate students.

Concordia Merit Scholarship (10,000 CAD) 2013 – 2014

Awarded on the basis of outstanding academic achievement and excellence.

Professional Memberships

Member of Petroleum Accountants Society of Canada (PSAC) 2014 – 2016

Member of Institute of Electrical and Electronics Engineers (IEEE) 2010 – 2012

Research Interests

Computer Vision, Artificial Intelligence, Machine Learning, Image and Signal Processing, Robotics, Web Development