

# Mohsen Yousefian.com

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Current City: [Winnipeg, Canada](#)



## INTERESTS

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### - [Deep Learning, Machine Learning and Artificial Intelligence](#)

Learning different artificial neural network architectures and predictive models, techniques used to improve their accuracy, reduce their computational cost and their relation to our own brain. Moreover, how they are implemented and capable of doing difficult tasks such as pattern recognition, computer vision and natural language processing.

### - [Front-end and Back-end Web Development](#)

Internet has enabled us to communicate between computers; web development allows us to define and develop the way we represent ideas we have with abilities of a cross-platform application. Furthermore, newer web development technologies and programming languages would allow us to blur the line between desktop and web applications in a professional-looking way.

### - [Algorithmic Problem Solving](#)

Finding algorithmic solutions to our math and daily life problems using computers and techniques to improve their efficiency.

### - [Interactive Graphical Programming](#)

Making graphical experiences based on inspiring ideas with their own rules, in order to limitlessly illustrate ideas on our mind that will lead to deeper understanding of the ideas.

## SKILLS

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- Programming Languages: [Javascript ES6/ES5](#), [Python](#), [C#](#), [C++](#), [R](#), [Java](#)
- Client-Side Programming: [Electron.js](#), [Windows Forms \(C#\)](#), [Windows Presentation Foundation \(C#\)](#)
- Client-Side Web Development: [HTML5](#), [CSS](#), [Javascript](#), [jQuery](#)
- Server-Side Web Development: [Node.js](#), [PHP](#)
- Version Control: [Git](#)
- Artificial Intelligence: [Deep Learning](#)
- Design: [Adobe Photoshop](#)
- Operating Systems: [Linux \(Ubuntu\)](#), [Windows OS](#)

## PROFESSIONAL EXPERIENCE

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May - August, 2019

### 1. [Passages Media Ltd.: Preserving Legacies for Generations to Come While Providing Hope and Healing To Grieving Individuals.](#)

Location: [441-SmartPark Innovation Hub \(100 Innovation Drive\), Winnipeg, Manitoba, Canada](#)

- **Role:** [Software Developer Intern](#)
- **Responsibilities:** Coding, modifying, developing and maintaining [company's website](#) from both server-side and client-side.

# PUBLICATIONS AND PAPERS

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## 1. iPASTIC: An online toolkit to estimate plant abiotic stress indices

- **Role:** Developed [online toolkit](#) for calculation and analysis of plant abiotic stress indices with features including PCA and 3D plot along with an R library.
- **Journal:** Applications in Plant Sciences
- **Authors:** Alireza Pour-Aboughadareh, Mohsen Yousefian, Hoda Moradkhani, Mohammad Moghaddam, Peter Poczai, Kadambot H M Siddique
- **Status:** Published (July 2019 issue, Software Notes)
- **DOI:** [doi.org/10.1002/aps3.11278](https://doi.org/10.1002/aps3.11278)

## 2. STABILITYSOFT: A new online program to calculate parametric and non-parametric stability statistics for crop traits

- **Role:** Developed [online user-friendly software](#) with a team of researchers for plant stability statistical analysis. And Published resulting web app as an interdisciplinary scientific paper in a peer-reviewed journal.
- **Journal:** Applications in Plant Sciences
- **Authors:** Alireza Pour-Aboughadareh, Mohsen Yousefian, Peter Poczai, Kadambot HM Siddique, Hoda Moradkhani
- **Status:** Published (January 2019 issue, Software Notes)
- **DOI:** [doi.org/10.1002/aps3.1211](https://doi.org/10.1002/aps3.1211)

# ACHIEVEMENTS

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- Light Bulb Winner (best first/second year student) at 13th Annual UManitoba's Programming Contest October 5, 2019
  - Rank among 1<sup>st</sup> and 2<sup>nd</sup> year students: 1<sup>st</sup>
  - Rank among all participants: 4<sup>th</sup>
  - Total participants: 75
  - Event held at: University of Manitoba

<https://www.cs.umanitoba.ca/~acmpc/past/bulbs19.html>
- Hackathon event at GDG (Google Developers Group) Winnipeg DevFest 2019 February 24, 2019
  - Team rank: 1<sup>st</sup>
  - Team size: 3 members
  - Event held at: University of Winnipeg
  - Hackathon theme: Accessibility
  - Final product: A chrome extension that listens to user on key press and finds links on page related to what user said to mic and showed results in a popup with high contrast and large font sizes.

<https://github.com/dlebee/hackaton-google-assistant>
- 2nd Annual CSSA (Computer Science Students' Association) Programming Contest February 2, 2019
  - Rank among 1<sup>st</sup> and 2<sup>nd</sup> year students: 1<sup>st</sup>
  - Rank among all participants: 8<sup>th</sup>
  - Total participants: 66
  - Event held at: University of Manitoba

<http://www.cs.umanitoba.ca/~acmpc/pc2/>

# PERSONAL PROJECTS

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## 1. GANN Lab: Genetic Algorithm + Artificial Neural Networks (2019)

Using: Genetic Algorithm, Neural Networks, CSS, HTML5, Javascript, Python

- Created a 2D world with simple physics and agents in it.
- Made a population of artificial neural networks and applied genetic algorithm to the weights to make the population learn to survive and navigate through the map over generations.
- Made a designing page for users to make their own map and see the agents learn in the map they made themselves.

[Github.com/Manzik/GANN-Lab](https://github.com/Manzik/GANN-Lab)

[Github.Mohsenyousefian.com/GANN-Lab/](https://github.mohsenyousefian.com/GANN-Lab/)

## 2. Persian (Farsi) Handwritten Digit Recognizer (2017-2018)

Using: C++, Deep Neural Networks (AI), Javascript, CSS, HTML5

- Made an artificial neural network (MLP) library in JS, and then in C++ for better performance without using any third-party libraries, from scratch.
- Trained neural network using C++ library to recognize hand-written Persian digits for about 3 hours and converted result into JSON format.
- Finally, interactively and visually demonstrated functionality of trained neural network using canvas and JS as a live example using the JS library.

[Github.MohsenYousefian.com/Persian-Handwritten-Digit-Recognizer/](https://github.mohsenyousefian.com/Persian-Handwritten-Digit-Recognizer/)

## 3. Communicator (2017)

Using: Node.js, C#, Java, Python

- Wrote a library to communicate between two programs written in different programming languages.
- Can be used to communicate between programs running on two computers in network securely (AES-128 encrypted).
- Implemented in 4 popular programming languages.

[Github.MohsenYousefian.com/Communicator/](https://github.mohsenyousefian.com/Communicator/)

## 4. Displayus (2016-2017)

Using: C#, Node.js, Javascript, Electron.js, CSS, HTML5

- A free, open-source and plugin-based windows app to have live and interactive desktop background instead of a fixed image using web technologies.
- Made a website for application at address [displayus.org](https://displayus.org).
- Made a tool for developers to make their own plugins (live background).

[Displayus.org](https://displayus.org)

[Github.com/Displayus/](https://github.com/Displayus/)

## 5. Monitor Master (2016)

Using: Node.js, Javascript, Electron.js, CSS, HTML5

- Made a multi-threaded desktop app to monitor websites' availability with features like notification systems, graphs and web portal.
- Reviewed, tested and rated 4.0/5 by Softpedia.

[Github.MohsenYousefian.com/Monitor-Master/](https://github.mohsenyousefian.com/Monitor-Master/)

[Softpedia.com/get/Internet/Other-Internet-Related/Monitor-Master.shtml](https://softpedia.com/get/Internet/Other-Internet-Related/Monitor-Master.shtml)

## 6. Connections (2014-2015)

Using: Javascript, HTML5, CSS

- An interactive, graphical experiment, demonstrating nodes in a network, gravitational interactions and connections in between.
- Approved by Chrome Experiments Team and featured on Chrome Experiments (Experiments with Google), Google's official website.

[Experiments.Withgoogle.com/Connections](https://Experiments.Withgoogle.com/Connections)

[Github.MohsenYousefian.com/lab/connections/](https://Github.MohsenYousefian.com/lab/connections/)

## 7. Thimblorig (2013-2014)

Using: Javascript, JQuery, HTML5, CSS

- A "Shell Game" made using web technologies such as jQuery and HTML5.
- Submitted and approved on Code Canyon digital market.
- Sold more than 50 copies on Code Canyon at a total worth of \$800.

[CodeCanyon.net/item/thimblorig/6583017/](https://CodeCanyon.net/item/thimblorig/6583017/)

# PROJECTS

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December 16, 2018

## 1. Website for Department of Physics at Sharif University of Technology (SUT)

Using: Wordpress, PHP, Javascript, HTML5, CSS

Developed website for Department of Physics at Sharif University of Technology and received certification of appreciation from department of physics at SUT.

[Physics.Sharif.edu/](https://Physics.Sharif.edu/)

# VOLUNTEER EXPERIENCES

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October 22, 2018

- NeuroTRACT International Spring School (2019) - Neuroscience Tutorials on Research Assets and Common Trends
  - Role: Web Developer
  - At: Students' Scientific Research Center (SSRC) of Tehran University of Medical Sciences (TUMS)
  - Website: [Neurotract.com](https://Neurotract.com)

# CERTIFICATIONS

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- Advanced C++ Programming and Development, Tehran Institute of Technology (Mojtame Fanni Tehran)  
Score: 90/100 2014
- Basic C++ Programming and Development, Tehran Institute of Technology (Mojtame Fanni Tehran)  
Score: 90/100 2013
- ICDL, Tehran Institute of Technology (Mojtame Fanni Tehran)  
Score: 99/100

## CONFERENCES ATTENDED

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- Advanced Data Science Summer School (ADS3) August 18-23, 2018
  - Held by: Institute for Research in Fundamental Sciences (IPM), Tehran, Iran
  - In association with: Amsterdam Data Science
  - Program: Accepted among top 100 applicants
- Deep Learning Summer School at University of Tehran (UTDLSS 2018) August 1-3, 2018
  - Held at: University of Tehran, Tehran, Iran
- Elementary Data Science Summer School (EDS3) June 30 - July 5, 2018
  - Held by: Institute for Research in Fundamental Sciences (IPM), Tehran, Iran
  - Program: Accepted among top 100 applicants
- Two-Day Symposium on Theoretical and Computational Neuroscience (TCNS 2018) April 16-17, 2018
  - Held at: School of Electrical and Computer Engineering, University of Tehran, Tehran, Iran
  - In association with: Bernstein Center Freiburg

## EDUCATION

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- University 1, University of Manitoba, Canada 2019-present
  - Pursuing Bachelor's Degree in Computer Science
- High School Diploma in the field of Mathematics & Physics, Iran 2014-2018

## LANGUAGE PROFICIENCY

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1. English: **Fluent**
2. Persian: **Native**

## ACTIVITIES AND HOBBIES

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Playing chess, table tennis, bull's-eye shooting, reading books (mostly math/science, philosophy and science fiction), following new music and latest tech news.

- Ranked 2<sup>nd</sup> in Enghelab Shooting Club youth bull's-eye shooting with rifles team competition as team captain and received silver cup, medal and prizes. (2016)
- Ranked 2<sup>nd</sup> for two years and 3<sup>rd</sup> for one year, received 2 silver and 1 bronze medals in primary school chess competition among all grade levels during education in Rah-E-Roshd primary school.
- Ranked 2<sup>nd</sup> in pre-university Table Tennis Competition (Dr. Hashtroudi high school). (2017)
- Ranked 1<sup>st</sup> in primary school soccer team competition among first grade teams and received gold medal.