Mohsen Yousefian.com

Email: contact@manzik.com

Current City: Winnipeg, Canada

Skills

- 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**, **Vue.js**
- Server-Side Web Development: **Node.js**, **PHP**, **Laravel**
- Version Control: **Git**
- Artificial Intelligence: **Deep Learning (TensorFlow, Keras)**
- Design: **Adobe Photoshop**
- Operating Systems: **Linux (Ubuntu)**, **Windows OS**

Professional Experience

May - August, 2020

1. Bioinformatics Lab, Department of Computer Science, University of Manitoba

   Location: Winnipeg, Manitoba, Canada

   - Role: Undergraduate Research Assistant
   - Under supervision of: Dr. Olivier Tremblay-Savard

May - August, 2019

2. 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
   - Responsibilities: Coding, modifying, developing and maintaining company's website from both server-side and client-side.

Publications and Papers

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 (July 2019 issue, Software Notes)
   - Authors: Alireza Pour-Aboughadareh, **Mohsen Yousefian**, Hoda Moradkhani, Mohammad Moghaddam, Peter Poczai, Kadambot H M Siddique
   - DOI: 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 (January 2019 issue, Software Notes)
   - Authors: Alireza Pour-Aboughadareh, Mohsen Yousefian, Peter Poczai, Kadambot HM Siddique, Hoda Moradkhani
   - DOI: doi.org/10.1002/aps3.1211

ACHIEVEMENTS AND AWARDS

April, 2020

- Faculty of Science Undergraduate Student Research Award
  - By: Faculty of Science, University of Manitoba
  - Value: $7,000

October 5, 2019

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

  https://www.cs.umanitoba.ca/~acmpc/past/bulbs19.html

February 24, 2019

- Hackathon event at GDG (Google Developers Group) Winnipeg DevFest 2019
  - Team rank: 1st
  - 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

February 2, 2019

- 2nd Annual CSSA (Computer Science Students' Association) Programming Contest
  - Rank among 1st and 2nd year students: 1st
  - Rank among all participants: 8th
  - Total participants: 66
  - Event held at: University of Manitoba

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

PERSONAL PROJECTS

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/
github.manzik.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.manzik.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.manzik.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.
- Made a tool for developers to make their own plugins (live background).

displayus.org
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.manzik.com/Monitor-Master/
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
github.manzik.com/lab/connections/

7. Thimblerig (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/thimblerig/6583017/

PROJECTS

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/

VOLUNTEER EXPERIENCES

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

CERTIFICATIONS

2014

- Advanced C++ Programming and Development, Tehran Institute of Technology (Mojtame Fanni Tehran)

  Score: **90/100**

2013

- 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**

SUMMER SCHOOLS

August 18-23, 2018

- Advanced Data Science Summer School (ADS3)
  - Held by: Institute for Research in Fundamental Sciences (IPM), Tehran, Iran
  - In association with: Amsterdam Data Science
  - Program: Accepted among top 100 applicants

August 1-3, 2018

- Deep Learning Summer School at University of Tehran (UTDLSS 2018)
  - Held at: University of Tehran, Tehran, Iran

June 30 - July 5, 2018

- Elementary Data Science Summer School (EDS3)
  - Held by: Institute for Research in Fundamental Sciences (IPM), Tehran, Iran
  - Program: Accepted among top 100 applicants

EDUCATION

2019-present

- University 1, University of Manitoba, Canada
  - Pursuing Bachelor's Degree in Computer Science

2014-2018

- High School Diploma in the field of Mathematics & Physics, Iran

LANGUAGE PROFICIENCY

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