

Payam Nikdel

Research assistant at Autonomy lab
Simon Fraser University

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Education

Simon Fraser University (SFU)

M.Sc. Computing Science

Burnaby, Canada
Sep 2016 - Present time

- Thesis Topic: Robot Follow Ahead of the Leader
- GPA: 4/4.33; Expected Graduation: May 2018

Shiraz university

B.Sc. Computer Engineering(Software engineering)

Shiraz, Iran
Sep 2010 - Feb 2015

- GPA: 17.82/20; Achieved the highest GPA among all B.Sc students

Work Experience

System Developer

Petro Gas Jahan Engineering company

Tehran, Iran
May. 2015 - Jun. 2016

- Improved the company network performance tools and contributed to develop software

Android Application and Web Development

[Cafebazaar](#) (a famous reputable App store in Iran)

Tehran, Iran
Apr. 2012 - Sep. 2012

- Participated in creating the [Divar Android application](#) and the [Divar website](#) using Django

Translator Software

Text Processing Lab at University of Tehran

Tehran, Iran
Sep. 2011 - Jan. 2012

- Participated in making an English to Persian translator using C++ language

Awards, Grants & Honours

Graduate:

- Fellowship and RA/TA position from The Simon Fraser University Spring 2016
- RA/TA position from The University of Alberta Spring 2016
- Fellowship and RA/TA position from The University of Victoria Spring 2016

Undergraduate:

- Ranked 1st in Computer Engineering students Fall 2014
- Awarded as the Best Undergraduate Student in Computer Engineering Spring 2014
- Ranked 18th in Iranian National Computer Olympiad for university student Spring 2014
- Ranked 4th in Kashan ACM competition among all national universities Spring 2011

Research and Academic Projects

Describe The Path Using Attention Model

Dr. Anoop Sarkar and Dr. Richard Vaughan

This paper propose a way to help visually impaired people navigate through an unknown indoor environment. The robot provides environmental information and navigational instructions for visually impaired or blind people. It translates sequence of laser scanner data to human readable language.

[The Hands-Free Push-Cart](#)

Dr. Richard Vaughan

Summer 2017

Presented a human model for an autonomous mobile robot that follows a walking user while staying ahead of them. Used multi-modal person detection and a human-motion model that considers obstacles to predict the future path of the user. This paper is currently under review by ICRA.

Reinforcing a Supervised Deep Network for Maximal Map Exploration

Spring 2017

Dr. Oliver Schulte and Dr. Richard Vaughan

Presented a new approach to reduce the training time in Reinforcement Learning algorithm. Built a hybrid network trained by a supervised algorithm to learn preliminary tasks, like obstacle avoidance, and then used Deep Reinforcement Learning to learn maximal map exploration. This work presented as a poster in IROS 2017 **Tools:** Tensorflow, Keras, ROS, Stage, Python, C++, OpenCV

Daydream Ant Algorithm

Fall 2016

Dr. Richard Vaughan

Presented a new approach based on SO-LOST algorithm by adding a thinking part. Daydream algorithm will reduce the path-finding time and it will guarantee to find an optimal path. **Tools:** ROS, Stage, Python, C++

Person Re-identification Using Point-cloud images

Fall 2016

Dr. Greg Mori

Enhanced and compared several deep-learning approaches for identifying people using 3D point cloud data. **Tools:** Tensorflow, Keras, ROS, Python, OpenCV

Control the mouse cursor with eyes or hands

Fall 2014

Dr. Zohreh Azimifar

Built two application using OpenCV to control the mouse pointer by tracking the user's eyes or hand (two separate applications). **Tools:** C++, OpenCV

3D Multiplayer Game With AI

Spring 2014

Dr. Farshad Khunjush

Developed a first person shooter online multiplayer game using Unity game engine with the capability of over 100 simultaneous players and created a simple AI for enemies in the single player mode. **Tools:** Unity3D, C#, Photon network

GPU Efficient Image Processing

Fall 2013

Dr. Farshad Khunjush

Utilized GPU to apply filters on high resolution images on CUDA platform. **Tools:** OpenCL, CUDA, C++

Technical Skills

Programming Languages:

- | | | | | |
|----------|-------|--------------|-------|------|
| ○ Python | ○ C | ○ Java | ○ C++ | ○ C# |
| ○ HTML | ○ CSS | ○ JavaScript | ○ SQL | |

Programming Platforms & Framework:

- | | | | | |
|----------|--------------|---------|-----------|----------|
| ○ Keras | ○ TensorFlow | ○ ROS | ○ STAGE | ○ OPENCV |
| ○ OPENCL | ○ Unity | ○ Git | ○ Android | ○ CUDA |
| ○ J2EE | ○ DJANGO | ○ LATEX | | |

Selected Teaching Experiences

Computing Laboratory	Fall 2016 & Fall 2017
Intro.Cmpt.Sci/Programming II	Fall 2016 & Fall 2017
Digital Design	Fall 2014 & Spring 2014
Artificial Intelligence	Spring 2014 & Fall 2013
Advanced Programming	Fall 2013
Data Structures And Algorithms	Spring 2013
Fundamentals of Computer Programming	Fall 2012