Payam Nikdel

Research assistant at Autonomy lab
Simon Fraser University

+1-778-378-8862
pnikdel[at]sfu.ca
http://payamn.github.io

Education

Simon Fraser University (SFU) — Burnaby, Canada
M.Sc. Computing Science — *Sep 2016 - Present time*

- Thesis (M.Sc.) in Computing Science (Robotics, Artificial Intelligence)
- GPA: 4.33/4.33; Expected Graduation: May 2018

Shiraz university — Shiraz, Iran
B.Sc. Computer Engineering(Software engineering) — *Sep 2010 - Feb 2015*

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

Work Experience

System Developer — Tehran, Iran
Petro Gas Jahan Engineering company — *May. 2015 - Jun. 2016*

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

Android Application and Web Development — Tehran, Iran
Cafebazaar (a famous reputable App store in Iran) — *Apr. 2012 - Sep. 2012*

- Participated in creating the Divar Android application and the Divar website using Django

Translator Software — Tehran, Iran
Text Processing Lab at University of Tehran — *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

The Hands-Free Push-Cart — Summer 2017
Dr. Richard Vaughan

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 will be 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

Making two player 3D game in DirectX Fall 2013

Dr. Reza Rohani

Created a simple two player shooter game using DirectX. **Tools:** C++, DirectX

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

Operating System:

- Windows
- Linux

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