Pooya **Alamirpour**

Electrical Engineer | Self-driving Car Engineer | Robotics

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Well-qualified Machine Learning and Self-Driving Car Specialist familiar with a wide range of programming utilities and languages. Knowledgeable. Able to translate project requirements into a well designed efficient system architecture. Complex problem-solver with an analytical and driven mindset. Interested in designing optimized structures and processes to accomplish customer targets and promote company loyalty. Dedicated to achieving demanding development objectives according to tight schedules while producing impeccable code.

Skills

- C++
- Python
- Deep Learning
- TensorFlow-PyTorch-Keras

Work History

Oct 2019 - Dec 2019

Self-Driving Car - Integrated System

Self-Employed

- I have implemented an integrated system that based on that a car can detect traffic light, keeps in the road, and tries to control his steering and speed in the robot operating system (ROS) by using Python and C++. This implementation has three different parts: Longitudinal and lateral movement - Traffic light status detection by Using Deep Learning - Path planning.
- **https://github.com/PooyaAlamirpour/Self-Driving-Car**

Jul 2019 - Sep 2019

Self-Driving Car - Path Planning

Self-Employed

- I have implemented a path planner that is able to create smooth, safe paths for the car to follow along with a three-lane highway with traffic. A successful path planner will be able to keep inside its lane, avoid hitting other vehicles, and pass slower-moving traffic all by using localization, sensor fusion, and map data.
- **https://github.com/PooyaAlamirpour/PathPlanning**

May 2019 -

Self-Driving Car - Behavioral Cloning

Jul 2019 *Self-Employed*

- One of the enthusiastic parts of the Self-driving Car is Behavioural Cloning. Can you imagine how it is fantastic an artificial device to learn driving? It can recognize the surface of the road, and it just knows the steering wheel as the only instrument for avoiding to leave the road. So its effort for being in the way is funny and impressive. I have implemented this project by using the Python programing language. I have prepared a video demo from my work.
- **https://github.com/PooyaAlamirpour/BehavioralCloning**

Mar 2019 - May 2019

Self-Driving Car Traffic Sign Classifier

Self-Employed

- The self-driving car is a fantastic technology that needs lots of crucial skills. One of the essential techniques in Self-Driving Car engineering is detecting the Traffic Sign. For acquiring to being a specialist in Self-Driving Car, we should know about recognizing the traffic sign and other obstacles on the road. I have prepared a video when I was working on implementing this project. I can share it if you are interested. This project is implemented using the Python programming language.
- **https://github.com/PooyaAlamirpour/TrafficSignClassifier**

Jan 2019 - Mar 2019

Self-Driving Car - Advanced Lane Line Detection

Self-Employed

- The self-driving car is a fantastic technology that needs lots of crucial skills. One of the essential technique is detecting street lanes. This project is implemented using Python programming languages. I have prepared a video demo showing the result of my work. Also, I have written a suitable ReadMe about the detail of this project.
- **https://github.com/PooyaAlamirpour/AdvanceLaneLineDetection**

Jan 2014 - Oct 2016

Electrical Engineer

Self-Employed

- The project involved 34 bus stations, and each station has three swing barrier gates. I have designed and implemented central electronic control and power unit systems of barrier gates, and I also implemented an application for monitoring and controlling all executed systems of bus lines of the city Mashhad. It needs to be mentioned that I also have executed several related projects based on the implementation on the barrier gate. You can take a look at some other projects (more than 15) I did during last five years at the following link:
- **http://www.scd.ir/sysnews/cid/731**

Dec 2008 - Feb 2015

Robotics Engineer

MRL

- One of amazing endeavours I had was working on Robotics Field. I had the chance to be part of a team who built smart and powerful robots which were supposed to help people. One of my great experiences was designing a robot to rescue people stocked in building wreckages after a disaster such as an earthquake. This fantastic robot could was awarded as first place in the international RoboCup competition in Mexico 2012. The robot also successfully

passed tests in real situations such as the Iran earthquake, which happened in 2011 in city of Tabriz.

Education

Oct 2019 - May 2020 **C++ Nanodegree Program**
Udacity

Oct 2006 - Oct 2010 **Bachelor of Science: Electrical And Electronics Engineering**
Qazvin Azad University - Qazvin

Certifications

Jun 2012 1St Place in International RoboCup, Rescue Robot League, Mexico City, Mexico

Aug 2012 1St Place in 3th International Federation of Inventors, Iran, mashhad

Apr 2013 1St Place in International IranOpen, Rescue Robot League, Tehean City, Iran

Jun 2013 1St Place in International Amirkabir University RoboCup, Rescue Robot League, Tehean City, Iran

Publication

Control Humanoid Robot using Intelligent Optimization Algorithms Fusion with Fourier series
The 9th International Conference on Computational Intelligence and Communication Networks (IEEE 2017)

Partitioning Clustering by ABC and Tabu Search Algorithm Fusion
13th Iranian Conference on Fuzzy Systems (IFSC 2013)

A Heuristic Method for Humanoid Robot Falling Detection Using Gyro Sensors
Robocop IranOpen 2011 Symposium and 1st Iran's Joint Conference of Robotics& AI (2011)