Ali Jahani Amiri

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Youtube Channel

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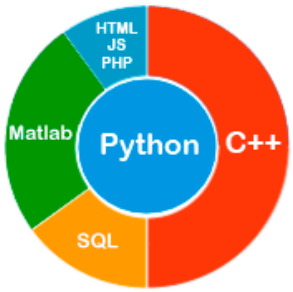
Programming



Technologies

Tensorflow, Keras, Caffe, ROS, Unreal Engine4, OpenCV, OpenGL, Scikit-learn, GIT, Power BI, Plotly

Voluntary

IROS 2017 Conference

AI·GI·CRV 2017 Conference

Leader of our convocation video clips team

Hobbies

Dancing, Swimming, Playing Video Games

Education

2016- now **M.Sc. in Computer Science** — University of Alberta, Canada
GPA: 3.9/4 Expected Gradutation Date: **June, 2018**
*Thesis: "***Semi-Supervised Monocular Depth Estimation with Left-Right Consistency Using Deep Neural Network***"*
Improving accuracy of the state-of-art single image depth estimation by 3%. We used LiDAR (as supervised) and stereo images (as unsupervised) simultaneously in our training using **Tensorflow***."*
Supervisor: Prof. Hong Zhang

2011 - 2016 **B.Sc. in Electrical Engineering** — University of Tehran, Iran
GPA: 15.59/20
Thesis: "Real-time Video Stabilization and Mosaicing".
Implementing a framework in C++ using OpenCV to stabilize the video stream by mosaicing
Supervisor: Dr. Hadi Moradi

Publications

2019 **A Jahani, SY Loo, and H Zhang**
Semi-Supervised Monocular Depth Estimation with Left-Right Consistency Using Deep Neural Network
submitted to IROS 2019

2018 **SY Loo, A Jahani, S Mashohor, SH Tang, and H Zhang**
CNN-SVO: Improving the Mapping in Semi-Direct Visual Odometry Using Single-Image Depth Prediction
ICRA 2019

2016 **A Jahani, H Moradi**
Real-time video stabilization and mosaicking for monitoring and surveillance 2016 4th International Conference on *Robotics and Mechatronics (ICROM), 613-618*

Work Experience

01/19 - Now **Research Assistant** — Robotics-vision Lab,UoA
Applying **conditional generative adversarial networks** for semi-supervised single image depth estimation framework
3D reconstruction of the environment using deep learning and Simultaneous Localization and Mapping (SLAM) for polarized cameras (Funded by Huawei)

11/17 - 09/18 **3D Game Developer Intern** — vrCAVE Inc., Edmonton
Implemented a **rule-based AI** and automated/manual in-game hint system using Unreal Engine 4 in Multiplayer Virtual Reality escape room games. We used **agile methodology** and **GIT**

09/16 - 12/18 **Teaching Assistant** — UoA
Introduction to Computing Science

05/17 - 08/17 **Research Assistant** — Robotics-vision Lab, UoA
Integrating deep learning methods with current state of art of Simultaneous Localization and Mapping(SLAM)

Certificates

11/18 **Structuring Machine Learning Projects** deeplearning.ai on Coursera
Learned to diagnose error and prioritize the most promising direction for error reduction

01/18 **Convolutional Neural Networks** deeplearning.ai on Coursera
Built a convolutional neural network, including recent variations e.g. residual networks.

12/17 **Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization** deeplearning.ai on Coursera
Learned to effectively use initialization, L2 and dropout regularization, batch normalization
Learned about different optimization algorithms, e.g. gradient descent, Momentum, RMSprop and Adam

12/17 **Neural Networks and Deep Learning** deeplearning.ai on Coursera
Implemented fully connected deep neural networks and backpropagation

Notable Projects

March 2019 **Crop Growth Stage Classification** Finalist Group @ATB DATATHON, Edmonton
Developed a real-time deep neural network to classify the growth stages of the crop using **Keras** and **Tensorflow** to help farmers, and performed a live demo on the stage.

Winter 2017 **2DGrid Mapping and Navigation using Monocular Camera** Robotics Course
Improved state of art ORBSLAM 2 framework for navigation tasks in C++ in real-time

Winter 2017 **Direct Sparse Odometry vs ORB-SLAM** Computer Vision Course
Compared direct and indirect methods in Simultaneous Localization and mapping algorithms

Fall 2016 **Image Segmentation of Choroideremia Disease** Machine Learning Course
Implemented machine learning algorithms such as **SVM**, **Random Forest**, **Deep Neural Network (UNet)** for pixelwise classification of retina images

Fall 2016 **3D Animation and Model Viewer** Computer Graphics Course
Implemented an animation loader using C++ and OpenGL

Fall 2015 **2D Prison Break Game** Advanced Programming Course
Implemented a 2D game using SDL in C++