Norman, OK
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Yuchao Jiang

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Google Scholar

Objective: Data Scientist/Machine Learning/Software Engineer

Skills

- Programming languages: C++, Python, Matlab
- Machine Learning: PCL, feature engineering, regression, classification, clustering
- Deep Learning: CNN, RNN, LSTM, GAN, object detection, segmentation, natural language processing
- Computer Vision: Canny edge detection, Hough space transform, HOG, perspective transform
- Familiar with Scikit-learn, TensorFlow, OpenCV, PCL, ROS, SQL, NoSQL, Hadoop
- Experience with satellite image processing: cloud masking, atmospheric motion vector

Work Experience

Data Scientist, Weathernews American Inc., Norman, OK 11/2017 - now

- Wrote Python and C++ codes to process satellite data (NetCDF, wgri2 and binary formats) for practical use
- Developed cloud mask algorithm using spectrum property of each satellite band. This work is used in the data assimilation, essential for improving the accuracy of Numerical Weather Prediction (NWP) models
- Developed machine learning models to postprocess NWP data for aviation forecast, achieved F2 score comparable to human forecaster. This work significantly improved the productivity of aviation forecasters.
- Gave 15-min oral at 18th Conf. on AI and its Applications to Environmental Sciences, Phoenix, Jan 2019

Project Experiences

Machine Learning Engineer, University of Oklahoma, Norman, OK 08/2016 – 07/2017

- Implemented Kalman Filter algorithm in C++ for sensor fusion, and particle filter algorithm for localization
- Implemented PID and predictive models to control the vehicle, A* search for path planning
- Produced a demo video (https://youtu.be/w15GpupQusM), which uses computer vision to identify lane line and calculate curvature, and uses deep learning to localize other vehicles on the highway.
- Developed a 3D pointcloud object detection algorithm using multiple filters, Euclidean clustering and SVM

Research Assistant, University of Oklahoma, Norman, OK 08/2010 – 05/2016

- Built numerical models to design waveguide and quantum structures of semiconductor lasers using Matlab
- Benchmarked the laser chip testing process and automated the data collection using Labview
- Improved the performance of mid-infrared lasers that can detect trace gas (e.g., methane) at ppb level
- Reviewer for 4 high-impact journals, authored 15 papers (citations 200+), hold 2 patents on laser technologies, gave 2 oral presentations at CLEO (San Jose), 1 result was highlighted in Nature Photonics

Education

Ph.D., Electrical and Computer Engineering, University of Oklahoma, Norman, OK 05/2016

Relevant courses: data structure, machine learning, deep learning, artificial intelligence