ZHENYE NA

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EDUCATION

University of Illinois at Urbana-Champaign May 2019
Master of Science, Industrial Engineering in Advanced Analytics
Concentration in Computational Science & Engineering

Dalian University of Technology July 2017
Bachelor of Engineering, Harbor, Waterway and Coastal Engineering

SELECTED PROJECTS

Self - driving RC Car using Raspberry Pi (TensorFlow, OpenCV) Feb. 2019 - Present

- Designed 3 sub-systems: Input Unit (camera, ultrasonic sensor), Processing Unit (Raspberry Pi) and Control Unit
- Trained 3-layer Neural Network in Google Colab to predict steering direction with video frames decoded
- Supported traffic light, stop sign detection and distance adjustment

Kaggle Competition: Humpback Whale Identification (Keras, PyTorch, fast.ai) Dec. 2018 - Feb. 2019

- Top 20% solution using Google Colab training Siamese Net and DenseNet156 architecture with Data Augmentation and Bounding Boxes prediction

Deep Reinforcement Learning - Flappy Bird hack (OpenCV, PyTorch) Nov. 2018 - Dec. 2018
https://github.com/drl-dql/DQN-Flappy-Bird

- Applied **CNN** to extract features of Flappy-Bird game and trained multiple agents using **Double DQN**
- Analyzed effects of different parameters settings and optimizer choices made on trained agents based on training reward and loss
- Concluded ~ 30 reward scores and 1-min playing duration

Image Similarity using Deep Ranking (Python, PyTorch) Oct. 2018 - Nov. 2018
https://github.com/Zhenye-Na/image-similarity-using-deep-ranking

- Implemented **Siamese Network** in PyTorch by using pre-trained ResNet-101 model on ImageNet for Deep Ranking
- Integrated with image query API for interactive image similarity searching and displaying
- Proved that Multi-scale Network model could be replaced by a ResNet-101 model and still reached impressive 55% test accuracy after training only 20 epochs

WORKING EXPERIENCE

Data Analyst Intern Sept. 2016 - Nov. 2016
Dalian Highway Construction Group *Dalian, China*

- Evaluated highway maintenance cost based on factors like traffic weight, bridge/tunnel ratio and so forth
- Adapted Linear and Nonlinear Regression model in SPSS and the model error is within 10%
- Created data visualization in Excel for Cost Manager by using VBA
- Optimized road maintenance cost by 20% based on the appraisal factor model

TECHNICAL SKILLS

Languages	Python, Java, Scala, MATLAB, SQL, Shell scripting, JavaScript, C/C++, Go, Julia
Frameworks	Tensorflow, Pytorch, Keras, fast.ai, Node.js, Django, REST
Tools	MySQL, MongoDB, MariaDB, Hadoop, Spark