Zhehao Huang

(+86)13601681344 · KinghtH@outlook.com · github.com/K1nght ·

Personal Summary

I am positive, optimistic, and passionate about novel things, with excellent grades. I am also committed to applying theoretical investigations to practical scenarios and making life better through practice, technology, and innovation.

Educational Background

Shanghai Jiao Tong University, School of Electronic Information and Electrical Engineering, Automation, *Junior Student* 2018.9 to present

GPA：3.9 / 4.3, **Average Grade：90.58 / 100**, **Rank：2 / 116(< 5%)**,

Technical Capability

- **Programming Language**: **Python**, C++, Matlab
- **Research interests**: Machine Learning，GAN，Neural Architectural Search
- **Linguistic Competence**：English：CET4：618，CET6：586

Awards

- Shanghai Jiao Tong University **B Class Excellent Scholarship**（< 10%） 2019.11
- National University Intelligent Car Competition **National Third Prize** 2020.8
- 2021 Interdisciplinary Contest In Modeling (ICM) **Meritorious Winner** 2021.4

Project/Laboratory Experience

Matrix in Sight：Calculator of Matrix in Photo 2020.12-2021.1

- Extrac and calcualte the handwritten matrix in the photo
- Responsible for algorithm flow design and object detection YOLOv4 model training
- Use LaTeX standard matrix data set to prtrain model and collect handwritten matrix data set
- Realize extraction of LaTeX standard matrix with multi-digit elements and handwritten matrix with single-digit elements in photos
- : github.com/K1nght/Matrix-in-Sight.
- **Keyword**： Object Detection, OCR, Time Series Model

GAN-based Chinese Painting Generation 2020.10-2021.1

- Use cycle-consistent adversarial network (cycleGAN) to transform pictures into Chinese painting style
- Collect data set to train generative adversarial network and modify the data sets according to results
- Introduce noise data augmentation to enhance the stability of model training and robustness to noisy input
- : github.com/K1nght/GAN-based_Chinese_Painting_Generation
- **Keyword**： GAN, Data Augmentation, Brushing Modeling

QueryNet | Institute of Image Processing and Pattern Recognition 2020.9 to present

- responsible for rerproducing SOTA methods in the black-box adversarial attacks
- surrogates in QueryNet are not only exploited as transferable attackers, but also as transferability evaluators for Adversarial Examples
- Close to the actual commercial attack scenario: allowing only 8-bit image queries, and no access to the victim's training data
- Submission to **NeurIPS 2021 Conference**
- **Keyword**： adversarial attack, black-box attack, query attack, score-based attack

Automatic Neural Architecture Search | Participation in Research Program (PRP) 2020.1-2020.10

- based on differentiable architecture search to obtain high-performance architectures on image classification problem
- Use continuous optimization formulation to achieve discrete solution by adding the quadratic penalty of the architecture parameters to the loss with a discrete constraint on architecture
- **Keyword**： Neural Architecture Search, Deep Learning, Optimization