Suikei (Ruiqi) Wang

Canberra, Australia, 2601 · (61) 491113062 · Suikei.Wong@anu.edu.au · www.linkedin.com/in/suikei-ruiqi-wang

Education

The Australian National University, Canberra, Australia   February 2019 — December 2020
Master of Machine Learning and Computer Vision | **GPA:** 6.357/7 (Distinction)
Thesis: Multiple Constraints and Non-regular Solutions in Deep Declarative Network
Beijing Normal University, Zhuhai Campus, Zhuhai, China   September 2015 — June 2018
Bachelor of Engineering in Digital Media Technology | **GPA:** 3.61/4 (Top 3%, <u>finished 4-years program in 3 years</u>)
Thesis: Development of Interface based on RESTful API and RBAC System

Skills

Programming: Python, MATLAB, C++, Java, SQL
Technologies: PyTorch, Numpy, SciPy, Autograd, OpenCV, Qt, Git, AWS
Languages: Cantonese, Mandarin, English

Related Experience

Visiting Scientist   November 2020 — Present
CSIRO's Data61, Black Mountain, Canberra, Australia
Supervisor: Dr David Ahmedt-Aristizabal
- Demonstrated the baseline of the cervical cell images classification based on promising CNN models
- Applying graph convolutional network (GCN) on cervical cell images for classification

Academic Tutor   July 2020 — November 2020
Research School of Computer Science, ANU, Canberra, Australia
Manager: Prof. Patrik Haslum / Dr Liang Zheng
- COMP1730/6730 Programming for Scientist; COMP3670/6670 Introduction to Machine Learning
- Hosted tutorial weekly, marked assignments and the final exam, arranged Q&A on Piazza

Research Assistant   February 2020 — November 2020
Research School of Computer Science, ANU, Canberra, Australia
Supervisor: Prof. Stephen Gould | Project paper: arXiv:1909.04866 | https://github.com/anucvml/ddn
- Developed multiple equality and inequality constraints optimization structure and the calculation of gradient in deep declarative nodes based on raw Python with various examples
- Exploring the non-regular solution of different constraints in deep declarative nodes like overdetermined system, rank deficient and non-convex cases, which are not able to calculate the gradient directly
- Finding the gradient in non-regular solutions: approximate the heuristic solution based on the Least-Squared method and orthogonal matching pursuit algorithm; calculate the exact solution through non-linear Lagrangian

Summer Research Assistant   November 2019 — February 2020
Research School of Computer Science, ANU, Canberra, Australia
Supervisor: Dr Charles Martin
- Generated fake piano music based on MAESTRO dataset using GANSynth in PyTorch framework
- Converted real and fake MIDI music into spectrograms, as the input of the binary classifier based on CNN and LSTM, which can discriminate real and fake music (more precise than the discriminator in GANSynth)

Selected Projects https://github.com/suikei-wong

Human Face Completion, ANU, Australia   July 2020 — Oct 2020
- Built a GAN model which can recover facial images based on a large-scale dataset (Celeb-A)
- Designed the algorithm based on probabilistic model which is able to generate multiple results for the same input
- Modified the model with feature map in decoder layers to synthesize particular style from another input image

Facial Attributes Classification, ANU, Australia   August 2019 — November 2019
- Built a deep learning model based on ResNet18 and linear classifier for facial attributes classification based on Celeb-A dataset as the baseline with an accuracy of 90.91%
- Developed a depthwise separable CNN MobileNet, and modified the window size which reduces the size of the network with only 37MB and improves the accuracy to 91.12%