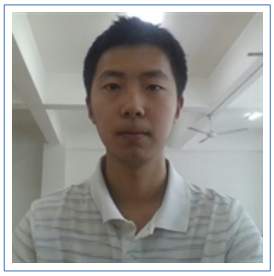

Peng Zheng

Curriculum Vitae

Education

Time: Aug.2015 - Jul.2019 School: Hebei Normal University

Department: College of Software Major: Python and Machine Learning

Main Subjects: Advanced Mathematics(97/100) / Linear Algebra(94/100) / Probablity and Mathematical Statistics(94/100) / Discrete Mathematics(93/100) / Object Orientated Programming(93/100) / Database(94/100) / Network Theory(96/100) / Computer Composition Principle(92/100) / Python and Machine Learning Practical Training(96/100)

Ranking: 14/379 GPA: 84.39/100

Scientific Research Experiences

1. Leaf Vein Extraction: 2016/10~2017/11

Join in the Sweden Kempe Fund – Vision-based leaf feature extraction for gene analysis, responsible for **the extraction of veins with an original extraction algorithm** and some other morphological characteristics of aspen leaves, including curvatures, end points, by pure image processing skills.

2. Visibility Detection in the Foggy Scene: 2017/12~2018/1; 2018/10~present

Participate in the Vision-based Foggy and hazy visibility estimation for intelligent transportation, responsible for **smog visibility detection algorithms based on traditional image processing and large deep-learning regression models**. At the beginning, the regression was not that satisfying, but after some special preprocessing and data augmentation, the regression models can gain very good results in just a few epochs. Now we are going to release the **first smog visibility dataset of real scenes in the world** and improve performance further more by taking dark channel prior into account.

3. Indoor Temperature Regression: 2018/6~present

Participate in Non-invasive thermal comfort measurement based on deep learning for intelligent building, responsible for most of the programming work, **adjusting classic CNN classification models to apply to the temperature regression task** with input flow of scanned skin images and indoor factor K, I put forward three model structures in terms of combining the factor K to figure out its effect.

4. Others: Predict traffic flow in time series with LSTM; Apply Gaussian kernerls with direction in generating density maps to improve existing state-of-the-art crowd counting models.

Outputs: 1. Scientific paper: *Study on extraction algorithm of leaf vein based on modified canny operator* was accepted by the supplement of *Application Research of Computers* which is a core journal in China, accepted in Sep.2018, first author.

2. Patent: An invention-type patent corresponding to the leaf vein extraction is under application, first applicant.

Access: Most of the researches can be seen on my Github: https://github.com/ZhengPeng7.

Room 507, Chengpuyuan 3, Hebei Normal University – Shijiazhuang, China

+86-15732115701 • *zhengpeng0108@gmail.com*

https://github.com/ZhengPeng7 • *Gender: Male, Birthday: 1998-01-08*

Professional Skills

Programming:	Python, MATLAB, C/C++, Shell, JavaScript, etc.
Research Tools:	Linux, Git, Inkscape, LaTeX, etc.
Knowledge Fields:	Image Processing algorithms, Machine Learning and Deep Learning algorithms, etc.
Important Libraries:	OpenCV, numpy, matplotlib, pandas, Tensorflow, Keras, Pytorch, etc.
Language Skills:	IELTS-6.5, CET4-597, CET6-546

School Life

Awards:

1. Second prize in the National English Competition for College Students.
2. Second prize in the Contemporary Undergraduate Mathematical Contest in Modelling in Hebei Province.
3. Second prize in Lanqiao Programming Competition in Hebei Province.
4. Third prize in the Hebei Big Data Competition.

Personal Projects:

1. Vehicle Plate Recognition in traditional image processing algorithms.
2. A lite real time human computer interaction system, including many interesting functions, including style transfer on clothes regions, ball tracking, artificial reality, etc.
3. Chinese characters detection and recognition, based on CTPN.

Coursera: I've been taking and passing many extracurrilar courses on Coursera with excellent grades, such as Machine Learning and DeepLearning.ai Specialization.

Organizations: Extraodinary member in Reader Association, responsible for the production and publication of the newspaper of university library.

Voluntary Experiences: Voluntary translator in the Global Translator Community of Coursera.

Internship

Baidu: 2017/12-2018/2

Work as a machine learning algorithm engineer in the department of Recommendation Technology Platform, responsible for doing the image flow filtration based on the image quality, and adapting online attention to affect the models generating different recommendations in the mobile Baidu feed flow.

Personality

Characters: Never angry, never stop, always humorous, love open source and sharing.

Goal: In short term: conquer every computer vision problem I meet, find some really valuable ways to improve the state-of-the-art, instead of only improving the performance with a utilitarian mind.

In long term: Combine more vision knowledge in the fields of biology, and try to solve the essential problems in vision, such as the 1-N problem in the Retinal Stimuls. Then apply them into computer algorithms.

Future Planning: As a researcher, keep struggling in the academia.

Hobbies: Go, guitar, MOOC, Kafka.

Room 507, Chengpuyuan 3, Hebei Normal University – Shijiazhuang, China
+86-15732115701 • *zhengpeng0108@gmail.com*
https://github.com/ZhengPeng7 • *Gender: Male, Birthday: 1998-01-08*