Dinghao Yang | Curriculum Vitae

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EDUCATION

Tongji University **Shanghai,China**
B.Eng. in Software Engineering *Expected Graduation: June 2020*
GPA: 4.63/5.0 (91.3/100), Top 6%

Relevant Coursework: Calculus(A), Discrete Mathematics(A), Probability and Statistics(A), Combinatorics(A), Object-Oriented Programming(A), Data Structures(A), Algorithm Design And Analysis(A), Software Engineering(A), Human-Computer Interaction(A), Databases(A), Digital Image Processing(A), Computer Graphics(A) et al.

National University of Singapore **Singapore**
AI Summer School *Jul. 2019*

Relevant Coursework: Machine Learning, Deep Learning, Computer Vision et al.
Industry Hands-on: Nvidia Fundamentals of Deep Learning for Computer Vision (Certificated)
Self-study Coursework: Machine Learning, Google Machine Leraning Crash Course, Udacity Deep Learning, CS231n

RESEARCH EXPERIENCE

iLab **Tongji Univ, Shanghai**
Advisor: Prof.Jianwei Lu, School of Software Engineerning *Aug. 2018 - Present*

- Focus on computer vision and medical image processing
- Use Neural Network and Deep Learning to help medical image analysis, and I mainly take part in two projects: pulmonary nodule classification and prostatic cancer segmentation, introduced in Project part

Graphic Image Research Center **Tongji Univ, Shanghai**
Advisor: Prof.Jinyuan Jia, School of Software Engineerning *Oct. 2018 - Present*

- Focus on augmented reality and WebAR
- I lead a team to do some exploratory develop on WebAR, mainly using AR.js, WebARonARCore. And solved the problem on multiple action control of gltf model with AR.js.

HONORS & AWARDS

- 17' National Second Prize in China Mathematical Contest in Modeling, Ministry of Education**(Top 6.5%)**
- 17'&18' First-class scholarship, Tongji University**(Top 5%)**
- 17'&18' Social activity scholarship, Tongji University**(Top 5%)**
- 17'&18' Elite student, Tongji University**(Top 5%)**
- 18' Ali Tianchi Big Data Competetion ICPR MTWI 2018 Word Detection 101/1424, ICPR2018(TOP 7%)
- 18' Elite Leader of Microsoft Student Club, MSRA
- 18' Microsoft Practice Space Outstanding Winner, MSRA**(10 of 119)**
- 18' Shanghai First Prize in China Mathematical Contest in Modeling, Shanghai Education Committee(Top 10%)
- 19' National Undergraduate Innovation Programs certified as eligible, Tongji University**(Top 5%)**
- 19' Shanghai Scholarship, Shanghai Education Committee**(Top 1%)**

PROJECTS

OCR on Video *Dec. 2017 – Mar. 2018*

Advisor: Researcher Chao Chen, Researcher Alan Ip, MSRA

- A project of Microsoft Student Club Practice Space, focusing on extracting video caption.
- Got Outstanding winner prize(10 of 119 teams)
- Based on top-hat transform, and using perceptive hash algorithm for caption deduplication, our algorithm achieving more than 390 frames per second, and the F1 score is higher than 95%.

Pulmonary Nodule Classification *Aug. 2018 – May. 2019*

Advisor: Prof.Jianwei Lu, Dr.Guokai Zhang, iLab, Tongji Univ

- A project about automatic pulmonary nodule classification, using neural network and attention mechanism.
- Proposed two attention mechanism operations, the first attention operation extracts the varied contextual and salient spatial features with our designed spatial pyramid attention block (SPAB). The second attention operation utilizes the semantic attributes as additional information cues to weight the malignancy features which is called the attribute attention block (AAB).
- Achieved competitive performance compared with state-of-the-art methods, on the LIDC dataset. And a paper has been submitted.

Prostatic Cancer Segmentation *Oct. 2018 – Present*

Advisor: Prof.Jianwei Lu, Dr.Guokai Zhang, iLab, Tongji Univ

- A project about semantic segmentation of prostatic cancer, focusing on predicting the cancer region and predicting the best point for prostate puncture.
- Used Mask-RCNN and U-net as the backbone network, and added Grad-CAM to generate the probability image.
- Basked on the MRI prostate cancer dataset, used 3D network architecture, could predict the volume of cancer region. And a paper has been submitted.

Parking-slot Image Generator *May. 2019 – Jun. 2019*

Advisor: Prof.Lin Zhang, Tongji Univ

- Pixel-level domain adaptation: A study case on generating parking-slot image samples.
- Used Unity to generate virtual parking-slot images, used GAN based network to realize domain adaptation.
- Based on CycleGAN, used resnet to extract features of generated images and target domain images, and added a new feature loss to reduce the difference of feature.

PUBLICATIONS

- Guokai Zhang, WeiGang Wang, **Dinghao Yang** et al. *A Bi-attention Adversarial Network for Prostate Cancer Segmentation.* IEEE Access

ACTIVITIES

SAP **SAP,Shanghai**

Internship *Jul. 2018 - Sep. 2018*

- I took part in the internship of SAP VT project.

Microsoft Student Summer Camp **Microsoft, Beijing**

Participant *Aug. 2018*

- I was a participant of Microsoft Student Summer Camp 2018 at MSRA

Microsoft Student Club **Tongji Univ,Shanghai**

Chairman *Jun. 2018 - Present*

- Responsible for organizing club,managing every aspect of the club.

TECHNICAL STRENGTH

- Programming Languages: Python, C/C++, C#, Matlab, Java, HTML/CSS, Javascript, LaTeX
- Platforms: Linux, Windows, macOS, Android
- Version Control: Git
- Packages&Tools: Tensorflow, Keras, PyTorch, Azure, OpenCV, NNI

ADDITIONAL

- I'm a founder of a commonweal organization,which focuses on education, and I've made several speeches in a senior high school
- Interest :Machine Learning,Deep learning,Computer vision(Now I'm learning them by myself and do related projects in our laboratory)