

# Yijun Yang

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## EDUCATION

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### Shandong University

**GPA: 89.6/100**

*Bachelor Candidate in School of Computer Science, Major in Artificial Intelligence Sep. 2018 – Jun. 2022(Expected)*

## PUBLICATION

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### • A Hierarchical Consistency Framework for Domain Generalization on Medical Image Segmentation

Yijun Yang, Shujun Wang, Pheng-Ann Heng, Lequan Yu

Submission to AAAI 2022

- First author of this work
- Design a novel form of the Fourier-based data augmentation, namely Amplitude Gaussian-mixing
- Introduce task-level consistency to Domain Generalization
- Present a fusion strategy to ensemble extrinsic data-level consistency and intrinsic task-level consistency

## EXPERIENCE

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### Undergraduate Research Assistant

Dec. 2020 – present

*iLearn Lab, Shandong University*

*advised by Prof. Gan Tian*

- Research area: Video Understanding, especially Vision & Language and Multi-modality Learning
- I joined in Pre-training for Video Understanding Challenge@ACM MM 2021 and focused on Video captioning

### Summer Internship

Jun. 2021 – present

*The University of Hong Kong*

*advised by Prof. Lequan Yu*

- Research area: Artificial Intelligence in healthcare, Medical Image Analysis, especially Domain Generalization and Multi-modality Learning
- One paper on Domain Generalization has been submitted to AAAI 2022
- I am participating in MICCAI2021 Contest:GAMMA, which aims to analyze clinical data of two modalities, 2D fundus images and 3D OCT scanning volumes, for glaucoma grading

## PROJECTS

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### ASL Detection | *Pytorch*

Sep. 2020 – Jan. 2021

- Theme: Develop a real-time Detector for American Sign Language
- Role: Team leader
- Algorithm: Implement YOLOv5, SSD, Cascade RCNN, Mask RCNN, Faster RCNN
- ASL Dataset: we make this dataset ourselves, including 3830 labeled images
- Others: Apply PASCAL VOC2012 to the above five algorithms, and develop a webpage
- Result: mAP@0.5:0.95 is 68%, about 55 frames per second (the demo video is available on my homepage)
- Evaluation: A+ in Practices on Artificial Intelligence advised by Prof. Lin Lu
- Code: <https://github.com/Scottyoung99/ASL-Detection>

### Real-time Plane Tracking | *C++, OpenCV*

Nov. 2020 – Dec. 2020

- Theme: Feature tracking under fixed plane template
- Algorithm: SIFT, SURF, ORB, RANSAC, OpticalFlow(KLT)
- Result: stable and fast using OpticalFlow(KLT)
- Code: <https://github.com/Scottyoung99/Real-time-Plane-Track>

### Socket Instant Messaging | *Python*

Apr. 2020 – May 2020

- Theme: Use Socket to realize the communication between two hosts
- Functions: Message to each other, Transfer files, audio and video call, beautiful UI
- Code: <https://github.com/Scottyoung99/Socket-Instant-Messaging>

## PROFESSIONAL COMPETITIONS

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### TipDM Challenge | *Pytorch*

Apr. 2021 – Jun. 2021

- Theme: Image classification and segmentation on Rock Samples
- Work Included: EfficientNet, Unet and other variants
- Role: Main members
- Evaluation: First Prize in China(**only 1.3%**)

### Contemporary Undergraduate Mathematical Contest in Modeling | *Python, Matlab*

Sep. 2020

- Theme: Crossing Desert, specifically about Opsearch and Graph Theory
- Goal: Given the rules and a desert map with start and end, search for the optimal strategy to cross desert and keep as much money as possible
- Role: Main members
- Evaluation: First Prize in Shandong

### CCF BDCI 2020 | *Pytorch*

Sep. 2020 – Dec. 2020

- Theme: Q&A Matching in Real Estate
- Role: Team leader
- Work Included: BERT and other variants, Data Augmentation, Model Ensemble
- Evaluation: **Top 5%** of all teams
- Code: <https://github.com/Scottyoung99/CCF-BDCI-2020-QA-matching-in-Real-Estate>

## AWARDS

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### Scholarship

- 2020 Specialty Scholarship in Entrepreneurship and Practice
- 2020 Specialty Scholarship in Aesthetic Education and Quality
- 2020 Academic Scholarship
- 2019 Specialty Scholarship in Entrepreneurship and Practice
- 2019 Academic Scholarship

### Other Competitions

- 2019 The 10th Shandong Undergraduate Entrepreneurship Competition (**Third prize in Shandong**)
- 2019 Digital Media Creation Competition (**Third prize in Shandong**)
- 2019 "FLTRP talent Cup" National English Reading Competition (**Winning prize in quarter-final of Shandong**)
- 2019 The 5th "Internet+" Undergraduates Innovation and Entrepreneurship Competition (**Third prize in Shandong University**)

## TECHNICAL SKILLS

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**Languages:** Python, C/C++, Matlab

**Deep Learning Frameworks:** Pytorch

**Others:** L<sup>A</sup>T<sub>E</sub>X