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# Ren Sucheng



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## EDUCATION

**South China University of Technology**

**Expected Graduation Date: June 2020**

- Overall GPA: 3.72/4 (Excellent Undergraduate Students and Postgraduate candidates)
- Major: computer science (English Innovation Class, only top 20% students in the department could join the class)
- IELTS score: 7(L:8.0 R:7.0 W:6.0 S:6.0)

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## RESEARCH INTERESTS

Deep Learning  
Computer Vision  
Salient Object Detection  
Cross-modal Learning  
GAN

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## PUBLICATION PREPRINTS

**Sucheng Ren**, Chu Han, Xin Yang, Guoqiang Han, and Shengfeng He. TENet: Triple Excitation Network for Video Salient Object Detection. European Conference on Computer Vision (**ECCV**), (**Spotlight Oral**, Acceptance Rate 5.0%)

**Sucheng Ren**, Wenxi Liu, Jianbo Jiao, Guoqiang Han, and Shengfeng He. Edge Distraction-aware Salient Object Detection. In submission to IEEE Transaction on Image Processing (TIP).

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## PROFESSIONAL EXPERIENCE

### Class Behavior Recognition

**May 2018 – April 2019**

- A Research on the Student's Behavior in Class Based on Deep Learning
- Three components: object detection, detect the special undisciplined behavior in class like sleeping or playing phones; classify whether the detected object is a positive class or a negative class; people re-id: matching patches and people in the database.
- Student research project of South China University of Technology with the funding of 6000 RMB from the South China University of Technology.
- In the process to apply for the patent.
- Accomplishment: developed a practical system to detect student behavior in class.

### **Image Manipulation Algorithm Based on Saliency**

Since February 2019

- Research on saliency-based image processing algorithm. The main idea is to use the target saliency map and source image which saliency is different from target saliency map to generate target image. The images have different saliency visually instead of just deceiving saliency detection models. It is similar to pix2pix and cycle-GAN mission, but due to the lack of ground truth, we design many different losses to ensure the authenticity and saliency of the generated pictures.
- National Training Programs of Innovation and Entrepreneurship for Undergraduates with the support 10000 RMB of national funding.
- Principal responsible person, responsible for project application, report writing, project planning, etc.
- Data collection and algorithm design.

### **Prediction and Optimization on Traffic Flow**

Since February 2019

- Research on the prediction and optimization of traffic flow. We have two directions. The first is using reinforcement learning build a traffic flow and reward system by simulating in software, and interactive with the environment by DNQ or A3C, some reinforcement learning method. The other is an evolutionary algorithm. Due to the slow interaction with the environment, we also design a simple model for online quick decision and updating with reinforcement learning.
- National Training Programs of Innovation and Entrepreneurship for Undergraduates with the support of national funding.
- Main participate, responsible for project application, brainstorm, report writing, project planning, etc.

## **HONOR**

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- South China University of Technology scholarship in 2017.
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- Awarded for serving as a student helper presented by The International Conference on Machine Learning and Cybernetics and The International Conference on Wavelet Analysis and Pattern Recognition in 2018.
- Successful participant of Mathematical Contest in Model and Interdisciplinary Contest in Modeling in 2018.