Tao Wang

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3688 Nanhai Avenue — Nanshan District, Shenzhen

Education

- **M.S. in Computer Science** *Sep 2020 - Present*
  Shenzhen University; Shenzhen, Guangdong
  Supervisor: Prof. Zhihui Lai; GPA: 3.36/4.0, Ranking 12/76
  Interests: Medical Image Segmentation / Semi-supervised Learning
- **B.S. in Computer Science** *Sep 2016 - Jun 2020*
  Guilin University of Electronic Technology; Guilin, Guangxi
  GPA: 90.37/100, Ranking 2/181

Publictions

- **Uncertainty-Guided Pixel Contrastive Learning for Semi-Supervised Medical Image Segmentation.**
  ***Tao Wang**, Jianglin Lu, Zhihui Lai, Jiajun Wen, Heng Kong.*
  *International Joint Conference on Artificial Intelligence (IJCAI), 2022, **CCF-A**.*
- **TFNet: Transformer Fusion Network for Ultrasound Image Segmentation.**
  ***Tao Wang**, Zhihui Lai, Heng Kong.*
  IEEE Asian Conference on Pattern Recognition (ACPR), 2021, Oral.

Selected Awards

- ***"Huawei Cup" China Graduate Mathematical Contest in Modeling*** *Dec 2021*
  National Second Prize
- *"Lanqiao Cup" Software and Information Technology Competition* *May 2018*
  National Third Prize
- *"Internet +" College Students Innovation and Entrepreneurship Competition* *Aug 2018*
  Second Prize
- ***National Scholarship (Top 0.5%)*** *Dec 2019*
- *Guangxi Government Scholarship (Top 2%)* *Dec 2016*
- *Excellent Academic Scholarship, First Prize (Top 10%)* *Otc 2017-2021*

Research Experience

- **Diagnosis and classification of multimodal breast tumors, *NFSC, Sep 2020 - Present***
  - We collected and made two breast tumor ultrasound image data sets with segmentation annotations.

- ◇ A feature fusion network based on transformer is proposed. This method aims to solve the problem of discontinuity of lesion area in ultrasound images under supervision. This work has been published in ACPR 2021 as oral presentation.
- ◇ We study a medical image segmentation algorithm based on pixel contrastive learning in semi-supervised environment. This method uses uncertainty to guide pixels with high confidence for contrastive learning, so as to make efficient use of unmarked data to improve the performance of the model. This work has been published in IJCAI-ECAI 2022.

Participation in Conferences and Programs

- *VALSE 2021 (Vision And Learning SEminar)* *Oct 8-10, 2021*
  Hangzhou, China
- *ACPR 2021 (The 6th Asian Conference on Pattern Recognition)* *Nov 9-11, 2021*
  Online
- *WSB 2022 (IAPR/IEEE Winter School on Biometrics)* *Jan 9-13, 2022*
  Shenzhen, China

Skills

- ▶ **Programming:** Python > C/C++ > Java
- ▶ **Frameworks:** Pytorch, MMSegmentation, OpenCV
- ▶ **Programs:** LaTeX, PhotoShop, Office
- ▶ **Platforms:** Linux, Windows