

# Yuyin ZHOU

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## EDUCATION

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2016 - Current	<b>Johns Hopkins University</b> , Baltimore Ph.D. student in Computer Science   Advisor: Dr. Alan Yuille
2014 - 2016	<b>University of California, Los Angeles (UCLA)</b> , Los Angeles M.S. in Electrical Engineering
2010 - 2014	<b>Huazhong University of Science and Technology</b> , Wuhan, China B.S. in Electrical Engineering

## ACADEMIC EXPERIENCE

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Jun 2013 - Aug 2013	<b>Research Undergraduate Assistant, Princeton University</b> Supervisor: Prof. Jason W. Fleischer
Aug 2016 - Current	<b>Research Assistant, Johns Hopkins University</b> Medical image analysis (the FELIX project: <a href="#">webpage</a> ) featured in: <a href="#">National Public Radio</a> Collaborators: Prof. Bert Vogelstein, Prof. Elliot K. Fishman
Jun 2017 - Nov 2017	<b>Research Intern, Google AI</b> Medical image analysis Supervisor: Dr. Mei Han
Jan 2019 - May 2019	<b>Teaching Assistant, Johns Hopkins University</b> TA for course <i>Vision as Bayesian Inference</i>
Jun 2019 - Sep 2019	<b>Research Intern, Google Brain</b> Medical image analysis Supervisor: Dr. Atilla Kiraly, Shahar Jamshy

## PUBLICATIONS

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David Dreizin, **Yuyin Zhou**, *et al.* **An automated multiscale deep learning method for quantitative visualization of traumatic hemoperitoneum**, in *Submission to Radiology: Artificial Intelligence*

Yingwei Li, Xiaojie Jin, Jieru Mei, Xiaochen Lian, Linjie Yang, Cihang Xie, Qihang Yu, **Yuyin Zhou**, Song Bai, Alan Yuille. **Lightweight Self-Attention Module: Manual Design and Auto Search**, in *Submission to CVPR*

Yan Wang, Xu Wei, Fengze Liu, Jieneng Chen, **Yuyin Zhou**, Wei Shen, Elliot Fishman, Alan Yuille. **Deep Distance Transform for Tubular Structure Segmentation in CT Scans**, in *Submission to CVPR*

Lifeng Huang, Chengying Gao, **Yuyin Zhou**, Cihang Xie, Changqing Zou, Alan Yuille, Ning Liu. **UPC: Learning Universal Physical Camouflage Attacks on Object Detectors**, in *Submission to CVPR*

Yingwei Li, Song Bai, **Yuyin Zhou**, Cihang Xie, Zhishuai Zhang, Alan Yuille. **Learning Transferable Adversarial Examples via Ghost Networks**, in AAAI Conference on Artificial Intelligence (AAAI), 2020

Linda C Chu, Seyoun Park, Satomi Kawamoto, Yan Wang, **Yuyin Zhou**, Wei Shen, Zhuotun Zhu, Yingda Xia, Lingxi Xie, Fengze Liu, Qihang Yu, Daniel F. Fouladi, Shahab Shayesteh, Eva Zinreich, Jefferson S. Graves, Karen M. Horton, Alan Yuille, Ralph H. Hruban, Kenneth W. Kinzler, Bert Vogelstein, Elliot Fishman. **Application of Deep Learning to Pancreatic Cancer Detection: Lessons Learned From Our Initial Experience**, in Journal of the American College of Radiology, 2019

Yingwei Li\*, Zhuotun Zhu\*, **Yuyin Zhou**, Yingda Xia, Wei Shen, Elliot Fishman, and Alan Yuille. **Volumetric Medical Image Segmentation: A 3D Deep Coarse-to-fine Framework and Its Adversarial Examples**, in Deep Learning and Convolutional Neural Networks for Medical Image Computing, Advances in Computer Vision and Pattern Recognition, Springer, ISBN 978-3-030-13968-1 (\* equally contribution), 2019

**Yuyin Zhou\***, Qihang Yu\*, Yan Wang, Lingxi Xie, Wei Shen, Elliot Fishman and Alan Yuille. **2D-Based Coarse-to-Fine Approaches for Small Target Segmentation in Abdominal CT Scans**, in Deep Learning and Convolutional Neural Networks for Medical Image and Clinical Informatics, Advances in Computer Vision and Pattern Recognition, Springer (\* equally contribution), 2019

Lingxi Xie, Qihang Yu, Yan Wang, **Yuyin Zhou**, Elliot Fishman, Alan Yuille. **Recurrent Saliency Transformation Network for Tiny Target Segmentation in Abdominal CT Scans**, in IEEE transactions on medical imaging (TMI), 2019

David Dreizin, **Yuyin Zhou**, Yixiao Zhang, Nikki Tirada, Alan Yuille. **Performance of a Deep Learning Algorithm for Automated Segmentation and Quantification of Traumatic Pelvic Hematomas on CT**, in Journal of Digital Imaging (JDI), 2019

**Yuyin Zhou**, Yingwei Li, Zhishuai Zhang, Yan Wang, Alan Yuille, Seyoun Park. **Hyper-Pairing Network for Multi-Phase Pancreatic Ductal Adenocarcinoma Segmentation**, in International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI), 2019

Zhishuai Zhang, **Yuyin Zhou**, Wei Shen, Elliot Fishman, Alan Yuille. **Lesion Detection by Efficiently Bridging 3D Context**, in Machine Learning in Medical Imaging (MLMI, Oral) Workshop of MICCAI, 2019

**Yuyin Zhou**, David Dreizin, Yingwei Li, Zhishuai Zhang, Yan Wang, Alan Yuille. **Multi-Scale Attentional Network for Multi-Focal Segmentation of Active Bleed after Pelvic Fractures**, in Machine Learning in Medical Imaging (MLMI) Workshop of MICCAI, 2019

Fengze Liu, **Yuyin Zhou**, Elliot Fishman, Alan Yuille. **FusionNet: Incorporating Shape and Texture for Abnormality Detection in 3D Abdominal CT Scans**, in Machine Learning in Medical Imaging (MLMI) Workshop of MICCAI, 2019

**Yuyin Zhou**, Zhe Li, Song Bai, Chong Wang, Xinlei Chen, Mei Han, Elliot Fishman, Alan Yuille. **Prior-aware Neural Network for Partially-Supervised Multi-Organ Segmentation**, in IEEE International Conference on Computer Vision (ICCV), 2019

Song Bai, Yingwei Li, **Yuyin Zhou**, Qizhu Li, Philip HS Torr. **Adversarial Metric Attack for Person Re-identification**, in Submission to IEEE Transactions on Pattern Analysis and Machine Intelligence

Cihang Xie, Zhishuai Zhang, **Yuyin Zhou**, Song Bai, Jianyu Wang, Zhou Ren, Alan Yuille. **Improving Transferability of Adversarial Examples with Input Diversity**, in IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2019

Yan Wang\*, **Yuyin Zhou\***, Wei Shen, Seyoun Park, Elliot Fishman, Alan Yuille. **Abdominal multi-organ segmentation with organ-attention networks and statistical fusion**, in Medical Image Analysis (MIA) (\* equally contribution), 2019

**Yuyin Zhou**, Yan Wang, Peng Tang, Song Bai, Wei Shen, Elliot Fishman, Alan Yuille. **Semi-Supervised 3D Multi-Organ Segmentation via Deep Multi-Planar Co-Training**, in IEEE Winter Conference on Applications of Computer Vision (WACV), 2019

Yan Wang, **Yuyin Zhou**, Peng Tang, Wei Shen, Elliot Fishman, Alan Yuille. **Training Multi-organ Segmentation Networks with Sample Selection by Relaxed Upper Confident Bound**, in International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI, **Oral**), 2018.

Qihang Yu, Lingxi Xie, Yan Wang, **Yuyin Zhou**, Elliot Fishman, Alan Yuille. **Recurrent Saliency Transformation Network: Incorporating Multi-Stage Visual Cues for Small Organ Segmentation**, in IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2018

Jianyu Wang, Zhishuai Zhang, Cihang Xie, **Yuyin Zhou**, Vittal Premachandran, Jun Zhu, Lingxi Xie, Alan Yuille. **Visual Concepts and Compositional Voting**, in Annals of Mathematical Sciences and Applications, 2018

Cihang Xie, Jianyu Wang, Zhishuai Zhang, **Yuyin Zhou**, Lingxi Xie, Alan Yuille. **Adversarial Examples for Semantic Segmentation and Object Detection**, in IEEE International Conference on Computer Vision (ICCV), 2017

**Yuyin Zhou**, Lingxi Xie, Wei Shen, Yan Wang, Elliot Fishman, Alan Yuille. **A Fixed-Point Model for Pancreas Segmentation in Abdominal CT Scans**, in International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI), 2017

**Yuyin Zhou**, Lingxi Xie, Elliot Fishman, Alan Yuille. **Deep Supervision for Pancreatic Cyst Segmentation in Abdominal CT Scans**, in International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI), 2017

## SELECTED AWARDS

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MICCAI 2017 Travel Award

**2nd** place at MICCAI 2018 - Computational Precision Medicine: Pancreatic Cancer Survival Prediction Challenge

## INVITED TALKS

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*Lesion Detection by Efficiently Bridging 3D Context*

Machine Learning in Medical Imaging Workshop of MICCAI

Oct 2019

*Prior-aware Neural Network for Partially-Supervised Multi-Organ Segmentation and Hyper-Pairing Network for Multi-Phase PDAC Segmentation*

PAII-JHU Workshop on Medical Imaging

Sep 2019

***Medical Image Registration***

Google Health

Sep 2019

***Semi-supervised 3D abdominal multi-organ segmentation via deep multi-planar co-training***

1st JHU Computer Vision Workshop

Apr 2019

***3D network-based pancreatic cancer survival prediction from CT scans***

MICCAI'18 Workshop and Challenges in Computational Precision Medicine

Sep 2018

***Training Multi-organ Segmentation Networks with Sample Selection by Relaxed Upper Confident Bound***

MICCAI 2018

Sep 2018

***Introduction to Medical Image Segmentation***

Google AI

Jun 2017

## ACADEMIC SERVICES

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### Conference Reviewer

- Computer Vision and Pattern Recognition (CVPR)
- European Conference on Computer Vision (ECCV)
- International Conference on Computer Vision (ICCV)
- Conference on Neural Information Processing Systems (NeurIPS)
- International Conference on Machine Learning (ICML)
- AAAI Conference on Artificial Intelligence (AAAI)
- International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI)

### Journal Reviewer

- IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)
- IEEE Transactions on Medical Imaging (TMI)
- Neurocomputing

## REFERENCES

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Dr. Elliot K. Fishman ([efishman@jhmi.edu](mailto:efishman@jhmi.edu))

Professor, the Johns Hopkins Medicine Department Radiology and Radiological Science, Department of Oncology and Department of Surgery

Dr. Alan L. Yuille ([alan.l.yuille@gmail.com](mailto:alan.l.yuille@gmail.com))

Bloomberg Distinguished Professor, Johns Hopkins University

Dr. Mei Han ([meihan@gmail.com](mailto:meihan@gmail.com))

Director of Silicon Valley Lab, PAII, Inc.