Yihong Sun

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Education

Johns Hopkins University, Baltimore, MD 2018–2022
- B.S. in Computer Science, Neuroscience, and Applied Mathematics and Statistics, 4.0 GPA.

Certificates:
- Machine Learning by Stanford University

Achievement: Dean's List, USA Biology Olympiad Semi-Finalist, Silver in International Medicine Olympiad

Research Experience

Undergraduate Researcher at CCVL Group @ JHU 2019–Present
- Supervised by Dr. Alan Yuille to develop computer vision systems via interdisciplinary integration with human vision.
- Implemented Context-Aware CompositionalNets for object detection under partial occlusions and regulated bias to contextual cues through context separation.
- Extended Context-Aware CompositionalNets to perform weakly supervised instance amodal segmentation by exploiting spatial compositional priors.
- 1st author on one submission accepted to the IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2020.

Research Fellow at UCI Cancer Research Institute 2017–2018
- Created the Micropallet Array Image Processing Project in association with UCI Cancer Research Institute Nelson Laboratory.
- Enhanced the advantages of the Micropallet Array Application via automating efficient analysis of radioactive marked cancer cell membrane expressions across multiple channels and cell lines.
- Continued the project remotely and optimized the user interface in a collaborative effort at JHU.

Work Experience

Course Assistant for the CS Department 2020–Present
- AS.050.375 Probabilistic Models of the Visual Cortex during the Fall of 2020 Semester.
- EN.601.226 Data Structures during the Spring and Fall of 2020 Semesters.
- EN.601.226 Data Structures Course Development during the Summer of 2020.

Chief Technology Officer of Cellular Analysis Technologies 2018–2019
- Led the development team to tackle the analysis of complex cell lines using machine learning techniques to maximize accuracy and efficiency, while minimizing the cost of cellular analysis.
- Completed development team expansion via campuswide recruitment.
- Secured the Microsoft AI Student Acceleration Grant.

Intern at Science Discovery Cube, Santa Ana, CA 2015–2018
- Cumulated over 200 hours of work experience at various positions in a children science museum.

Skills

Programming Languages and Frameworks
- Experienced: PyTorch, OpenCV, Python, Java, C++, Git, and LINUX.
- Comfortable: Tensorflow, C, HTML, and Xcode App Development.

Concepts
- Object-Oriented Programming, Convolutional Neural Networks, Probabilistic Compositional Models, Deep Learning, and Neural Architecture Learning.