Wenjun Wu

Ph.D Student

+1 (404) 838-8084
wenjunw@cs.washington.edu
meredith-wenjunwu.github.io

Research Interest

I am a fifth-year Ph.D. student in the GRAIL lab at the University of Washington, Seattle, advised by Prof. Linda Shapiro. My research interests lies in learning interpretable and explainable machine learning models. In particular, I am interested in machine learning for computer-aided diagnostic systems.

Education

2017 - 2023 (expected)
University of Washington, Seattle, WA
Ph.D., Biomedical Informatics
Advisor: Linda Shapiro
Overall GPA: 3.72/4.00

2013 - 2017
Georgia Institute of Technology
B.S. in Biomedical Engineering
Advisor: May Wang, Ajit Yoganathan
Overall GPA: 3.83/4.00

Publications

2023
VSGD-Net: Virtual Staining Guided Melanocyte Detection on Histopathological Images
Liu K., Li B., **Wu W.**, Shapiro L., Elmore J., Knezevich S., Chang O., May C., Reisch L.
IEEE Winter Conference on Applications of Computer Vision, 2023

2022
Automated Analysis of Whole Slide Digital Skin Biopsy Images
Nofallah S., **Wu W.**, Liu K., Ghezloo F., Elmore J., Shapiro L.
Frontiers in Artificial Intelligence

2022
End-to-End Diagnosis of Breast Biopsy Images with Transformers
Mehta S., Lu. X, **Wu. W**, Weaver D., Hajishirzi H., Elmore J. G., Shapiro. L. G.
Medical Image Analysis, 79, 2022.

2022
Improving the Diagnosis of Skin Biopsies Using Tissue Segmentation
Nofallah S., Li B., Mokhtari M., **Wu W.**, Knezevich S., May C. J., Chang O. H., Elmore J. G., Shapiro L. G.
Diagnostics, Vol. 12, 2022.

2022
Segmenting Skin Biopsy Images with Coarse and Sparse Annotations using U-Net
Nofallah S., Mokhtari M., **Wu W.**, Mehta S., Knezevich S., May C. J., Chang O. H., Lee A. C., Elmore J. G., Shapiro L. G.
Journal of Digital Imaging, April 2022.

2021
Scale-Aware Transformers for Diagnosing Skin Biopsy Images
Wu W., Mehta S., Nofallah S., Knezevich S., May C. J., Chang O., Elmore J. G., Shapiro L. G.
IEEE Access, vol. 9, pp. 163526-163541, 2021

2021
Applications of the ESPNet architecture in medical imaging
in State of the Art of Neural Networks and their Applications

Mehta S., Nuechterlein N., Mercan E., Li B., Nofallah S., **W. Wu**, Lu X., Caspi A., Rastegari M., Elmore J., Hajishirzi H., Shapiro. L.
Academic Press, Vol. 1, 2021, pp. 117-131.

2020 MLCD: A Unified Software Package for Cancer Diagnosis
Wu W., *Li B., Ezgi M., Mehta S., Bartlett J., Weaver D., Elmore J., Shapiro L.*
JCO Clinical Cancer Informatics 4, 290-298, 2020 [website]

2020 Comparison of Fontan Surgical Options for Patients with Apicocaval Juxtaposition
Wei Z., Johnson C., Trusty P., Stephens M., **Wu W.**, *Sharon R., Srimurugan B., Kottayil B., Sunil G., Fogel M., Yoganathan A.,* Kappanayil M
Pediatric Cardiology, 1-10, 2020

2018 The advantages of viscous dissipation rate over simplified power loss as a Fontan hemodynamic metric
Wei Z., Tree M., Trusty P., **Wu W.**, *Singh-Gryzbon S., Yoganathan A.*
2018 Annals of biomedical engineering 46 (3), 404-416

2017 11C-PIB PET image analysis for Alzheimer's diagnosis using weighted voting ensembles
Wu W., Venugopalan J., Wang M.
IEEE Engineering in Medicine and Biology Society (EMBC 2017)

Experience

2022 Fall **ML Engineering Intern**, *Meta*, Business Integrity Team.
Optimized video integrity models for back-compatibility to avoid constant retraining and declining performance.

2022 Summer **Research Intern**, *Microsoft Research*, BioML Group.
Apply deep learning to detect Parkinson's Disease using whole slide images from different tissues. Communicate with pathologists to troubleshoot.

2021 Summer **Vision Intern**, *Intuitive Surgical*, Vision NPI Team
Worked on simulated dataset and utilization of reinforcement learning (e.g. A2C, PPO and SAC) for accurate and fast alignment of viewers on Da Vinci surgical system.

2018 Summer **ML Intern**, *Siemens*, Product Design, Modeling and Simulation Team
Apply machine learning for computer-aided CNC machining of 3D objects.

Teaching

2022 **CSE 473** Intro to Artificial Intelligence, TA
2022 **CSE 576** Computer Vision, TA
2017 - 2023 **CSE 373** Data Structure and Algorithm, TA

Awards

2017 **President Research Award**, *Georgia Institute of Technology*
2016, 2017 **Faculty Honors**, *Georgia Institute of Technology*
2014, 2015 **Dean's list**, *Georgia Institute of Technology*