

Education

2013–2017 **Georgia Institute of Technology.**
B.S. in Biomedical Engineering, Minor in Computing and Intelligence
Overall GPA: 3.83/4.00

2017–present **University of Washington.**
Ph.D in Biomedical Informatics, advisor: Linda Shapiro.
Overall GPA: 3.83/4.00

Publications and Presentations

11C-PIB PET Image Analysis for Automated Alzheimer's Diagnosis Using Weighted Voting Ensembles.

Wenjun Wu, Janani Venugopalan, May D. Wang.

Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), 2017. [Slides]

The Advantages of Viscous Dissipation Rate over Simplified Power Loss as a Fontan Hemodynamic Metric.

Zhenglun Alan Wei, Michael Tree, Phillip M Trusty, Wenjun Wu, Shelly Singh-Gryzbon, Ajit Yoganathan

Annals of biomedical engineering (2017): 1-13.

Study of Chronic Change of Hepatic Blood Flow Distribution of Fontan Patients.

Undergraduate Research Symposium at Georgia Tech, Atlanta, GA, April 2016. [Slides]

Research Experience

Sept 2017 – **UW Graphics and Imaging Laboratory, Advisor: Linda Shapiro.**

Current Detecting cellular-level entities (e.g. nuclei, melanocytes and etc.) and structural entities (e.g. mid-level features like melanocyte bridges, etc.) in digitized whole slide images of melanocytic skin lesions.

Developing an automated diagnosis system from structural and cellular-level entities that can classify digitized slide images into one of five possible diagnostic classes: atypical lesions; melanoma in situ; invasive melanoma stage T1a; and invasive melanoma stage \geq T1b.

[Nuclei Detection] [Melanocyte Detection]

May 2016 – **The Bio-Medical Informatics and Bio-Imaging Laboratory, Advisor: May D. Wang.**

May 2017 Adopted 11C-PIB PET image datasets from ADNI database and implemented preprocessing pipelines.

Extracted 3D image features from processed PET images; applied weighted and unweighted voting ensembles of baseline classifiers to classify PET images into categories that correspond to diagnosis of Alzheimer's disease. *The paper was accepted to EMBC 2017.*

Jan 2015 – **The Cardiovascular Fluid Mechanics Lab (CFM Lab), Advisor: Ajit Yoganathan.**

May 2017 Performed computational fluid dynamics simulations using ANSYS Fluent (ANSYS, PA) on pre-surgery and post-surgery patient under both time-averaged and pulsatile boundary conditions; evaluated flow efficiency using simplified power loss or a viscous dissipation rate metric. *The paper was accepted to Annals of Biomedical Engineering.*

Projects

- Jan 2017 – **AirTech - iOS application for lung function monitoring.**
May 2017 Developed a lung function monitoring device for chronic lung disease patients that quantifies air flow rate and exhaled gas components, conducts test validity check, and automatically records test results to compatible iOS application. [\[Code\]](#) [\[Demo\]](#)
- Jan 2016 – **Cancer Stage Diagnosis using Biomedical Image processing.**
May 2016 Developed supervised and unsupervised segmentation of cellular structures using classification algorithms; extracted various types of features and adopted multiple dimensionality reduction methods; used extracted features to build various classifiers for diagnosing cancer stage from breast biopsy histological images and achieved F1 score of about 0.9. [\[Demo\]](#)
- Jan 2016 – **Scribbler Robot Navigation.**
May 2016 Programmed a scribbler robot to perform task in image processing (exploration of surrounding areas using image stitching) and in navigation (obstacle identification, path planning and robot localization).
- May 2016 – **PTT Advisor+.**
Sept 2016 Collaborated with CDC (Centers for Disease Control and Prevention) and administered the implementation and design of iOS mobile app to provide guidance for physicians to prescribe anticoagulant drug and test.
[\[Link\]](#)

Honors

Georgia Tech President's Undergraduate Research Program Salary Award, Spring 2017.

Georgia Tech Faculty Honors, Spring 2014, Spring 2016, Spring 2017.

Georgia Tech Dean's list, Fall 2014, Spring 2015, Fall 2015.

Teaching Experience

- Sept 2017 – **Data Structure and Algorithm**, *Instructor: Evan MaCarty.*
Dec 2017 Led weekly section, write section-handouts and exam study guides. [\[Course Website\]](#)
- Jan 2018 – **Data Structure and Algorithm**, *Instructor: Michael Lee.*
present Led weekly section, write section-handouts and exam study guides. [\[Course Website\]](#)

Extracurricular and Volunteering activities

- Aug 2013 – **Engineers Without Borders**, *Navajo*, Project Leader, Atlanta, GA.
Dec 2014 Proposed a preliminary Composting Toilet model
Built up an experimental model and initiated first stage testing.
- Jan 2016 – **Community Service Projects with Omega Phi Alpha Nu Chapter**, Atlanta, GA.
Dec 2015 30 hours+ of volunteer activity at Atlanta Humane Society, Atlanta Community Food Bank and Atlanta animal shelter.

Skills

- Programming Python, C/C++, Java, MATLAB, R
- Engineering Signal Processing, Image Processing (MRI, PET and Histopathology Images), Statistics, Fluid mechanics
- Software/Tools OpenCV, BrainSuite, SPM12 Toolbox, Free Surfer, FSL, xcode, ANSYS Workbench
Fluent, LABVIEW, Solidworks, STAR CCM+, Paraview, SPSS, Excel, Microsoft Suite