

HUI “AMALIE” SHI

* Open to relocation, flexible start time | 443-240-3700 | <https://amalieshi.github.io> | hshi16@alumni.jh.edu

EDUCATION/ PROFESSIONAL CERTIFICATIONS

JOHNS HOPKINS UNIVERSITY, Whiting School of Engineering, Baltimore, Maryland
Master of Science in Biomedical Engineering: December 2019

GEORGIA INSTITUTE OF TECHNOLOGY, Atlanta

Bachelor of Science in Biomedical Engineering with Highest Honors: December 2016

GPA: 3.64

Alpha Eta Mu Beta Biomedical Engineering Honor Society Member

Engineer-In-Training (EIT), Chemical Engineering Discipline, Maryland State Board for Professional Engineers

Aug 2021

Certified Six Sigma Yellow Belt (CSSYB), American Society for Quality (ASQ)

Sept 2020

INDUSTRIAL/WORK EXPERIENCE

Software Applications Engineer Informetric Systems Inc., Engineering Group

Feb 2021 - Present

- Designing, developing, and integrating scalable pharmaceutical manufacturing reporting software (InfoBatch and InfoLog) by creating pipelines to aggregate customer SQL data, transforming results into intermediate XML, and rendering to users as HTML to adhere to Good Manufacturing Practices (GMP) and improve process efficiency
- Gathering user requirements to map existing or new manufacturing processes to the associated process automation and enterprise level systems and configuring/developing electronic batch records (EBRs) and developing qualification documentation
- Implementing the development and validation of software updates and hotfixes to support feature requests/bug fixes by setting up testing environments, writing new software release tests, and performing formal test procedures

Pharmaceutical Engineer Aphena Pharma Solutions, Engineering Group

Jan 2020 - Feb 2021

- Developed and authored protocols and reports. Documented the commissioning of automated systems (refrigerators, cartoning machine, filling, capping, and labeling machine, blending tanks, water purification system, and serialization machine) through the development and field execution of IQOQ protocols and process validation of the blending, packaging, filling, serialization, and cleaning processes
- Proposed solutions to inventory control and management issues for cost reduction
- Designed process and manufactured lab-scale commercial products to optimize process using tech transfer packages
- Designed, procured, and fabricated tooling and fixtures to support the manufacturing process
- Set up preventive maintenance (PM) schedules and provides training, PM and work instruction to the operators and mechanics
- Completed corrective actions and preventive actions (CAPA) in a timely manner with a clear understanding of cGMP practice

Consultant JOHNS HOPKINS UNIVERSITY, Study Consulting Program

Fall 2017

- Mentored three undergraduate students weekly to help develop better study habits.

Head Mathematics Teaching Assistant GEORGIA INSTITUTE OF TECHNOLOGY

Fall 2014 – Fall 2016

- Instructed 20 students in two 50-minute recitation sessions each week to reinforce Calculus I concepts
- Graded papers and held office hours to answer homework and exam questions
- Acted as the liaison between students and the course instructor to improve classroom learning

Genetic Intern BGI GROUP

Summer 2014

- Performed basic genetic experiments such as PCR and gel electrophoresis.
- Led a team of 15 students in debates and discussions in genetic research, big data research and bio-ethical issues.

RELEVANT SKILLS

Software: MATLAB, Simulink, SolidWorks, R, Python, C#, SQL, LabVIEW, Illustrator, EndNote, LaTeX

Statistics, Computational Modeling and Applications: Statistics and Probability, Simulation of Biomedical Scenarios, Dynamical System Modeling, Design of Systems Models, Parameter Estimation, Phase-plane Analysis, Optimization

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Edison, New Jersey, United States of America

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ACADEMIC/RESEARCH EXPERIENCE

JOHNS HOPKINS UNIVERSITY, Baltimore, MD

Medical Image Analyst, Advanced Imaging Algorithms & Instrumentation Lab

April 2018 - Dec 2019

- Designed 3D-printed vascular stenosis, liver, and lung nodule CT target with Solidworks, MATLAB, and AutoCAD.
- Molded and cast anthropomorphic phantoms and spherical targets for CT image quality assessment.
- Segmented / Classified volumetric data using radiomics features (GLCM), power spectral density, filtering, denoising, edge detection, optimization, and clustering to extract & characterize features of the CT image targets with MATLAB.

Graduate Research Assistant, Myocarditis Lab

Jan 2018 - April 2018

- Annotated human heart samples with a high-resolution microscope and characterized the distribution of cardiac cells and invading autoimmune cells.
- Administered therapeutic agents through different routes; performed survival animal surgeries in creating heart failure and cardiac arrest models in mice/rats (intubation/mechanical ventilation and arterial/vein cannulation).
- Harvested heart and spleen and cultured cell in vitro; purified and isolated cells and prepared the histology sample of the heart; performed molecular biology experiments such as real-time PCR, ELISA, flow cytometry, Western Blot, and immunostaining.

GEORGIA INSTITUTE OF TECHNOLOGY, Atlanta, GA

Biological Signal Data Analyst, Neuro-electrophysiology Lab

Sept 2013 - Jul 2017

- Engineered a feedback-controlled implanted stimulation system to reduce foot drop symptom by electrically stimulating the muscle through intramuscular electrodes.
- Applied linear quadratic regulator theory (MATLAB) and NEUROMECHANIC to simulate the stretch of a muscle to predict the response of another muscle.

CONFERENCES, PUBLICATIONS AND AWARDS

[P]. Shi, H., Gang, G., Li, J., Liapi, E., Abbey, C., Stayman, JW., *Performance Assessment of Texture Reproduction in High-Resolution CT*, SPIE 2020 conference proceeding

[C]. Shi, H., Lyle, M., Turtill, C., Nichols, R., *Positive force feedback may ameliorate muscle weakness*, 2017 SfN's 47th annual meeting poster

[C]. Lyle, M., Shi, H., Anderson, H., Rapsas, B., Nichols, R., *Behavioral adaptations during downslope walking after cross-reinnervation of medial gastrocnemius and the pretibial flexors*, 2017 SfN's 47th annual meeting poster

[C]. Li, J., Gang, G., Shi, H., Stayman, JW., *3D-printed Texture Phantoms for Assessment of High-Resolution CT*, AAPM 2019 annual meeting presentation

[A]. Mobile Atlanta Scholarship by the Metro Atlantic Chamber

A merit-based scholarship awarded in 2015 for the work in a wearable necklace device that monitors the compliance of medical regimen

LEADERSHIP EXPERIENCE

Vice President: Georgia Tech Women's Chorus

Fall 2012 – Fall 2015

Secretary: Biomedical Research Opportunities Society

Fall 2012 – Fall 2014

Staff Writer: Pioneer BME Publication

Spring 2013 – Spring 2014