HUI "AMALIE" SHI

* Open to relocate anywhere in the UK, Flexible Start Time | 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 configure/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) on time 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 on 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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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 cells 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 symptoms 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 on 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*