Zitian Tang

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Biomedical Engineering - Computational Biology - Medical Informatics

Education

Georgia Institute of Technology **08/2018 - Present**
B.S. in Biomedical Engineering Expected Graduation Date: 12/2021
Minor in Computer Science – Artificial Intelligence
Overall GPA: 4.0, Faculty Honors and Dean's List recipient 2018-2021
Nominated for Outstanding Academic Achievements Award 2021

Research Experience

Undergraduate Researcher/Research Assistant
Georgia Institute of Technology - Dr. May Wang Laboratory **05/2021 - Present**
- Implement semantic segmentation to enhance classification model performance.
- Publish 2021 IEEE Data Hackathon – COVID-19 Prediction from Lung Radiography Images Using Deep Learning.
- Generate Convolutional Neural Network for COVID-19 lung CT image classification.

Huahui Health Ltd. - Research & Development Team **05/2020 - 01/2021**
- Advanced hepatitis B antibody drug discovery by measuring antibody binding affinity.
- Constructed three antibody library with more than 10 billion high-affinity functional antibody fragments.
- Filtered out antibodies targeting certain virus to develop corresponding vaccine.
- Increased antibody expression level by 10,000% using recombinant DNA technique.

Georgia Institute of Technology - Dr. Yongtae Kim Laboratory **01/2019 - 04/2020**
- Increased the homogeneity of ApoE3 mediated nanoparticle by 15% for the use of drug across the blood-brain barrier.
- Boosted average yield by 20% for human ApoE3, E4, ApoA1, and r4f linked nanoparticles.
- Visualized nanoparticles to measure homogeneity, size, and yield.

Beihang University - Dr. Gang Zhou Laboratory **2017 - 2018**
- Designed and tested a mask with a novel bionic convex surface structure to prevent contamination.
- Patented the surface structure – CN207075608U.

Projects

- Advanced central venous catheter insertion process to reduce bloodstream associated infection.
- Implemented machine learning techniques in stroke onset prediction.
- Generated logistic regression model in Multiple Sclerosis disease diagnosis.
- Developed a more accurate cholesterol home test kit for people at risk of Hyperlipidemia.
- Created an machine learning model and an automated unit to prevent falling for Parkinson's Disease patients.

Skillset

Molecular Biology
- ELISA, Gel Electrophoresis, SDS-PAGE, Western Blot, Co-Immunoprecipitation, Immunofluorescence, qRT-PCR

Programming and Modeling
- Python (PyTorch): Machine Learning, Deep Learning, Convolution Neural Network, Artificial Intelligence, Big Data
- Bash: Scripting, Pipeline Construction, Data Management and Processing
- Solidworks and CAD: engineering prototyping
- MATLAB: Medical Image Processing, Signal Processing
- R: Data Modeling, Data Clustering
- Java: Application Development (Autograder for MATLAB version R2020a)
- Perl: Text-based file formatting and data cleanup, Regular Expressions

Leadership

- Georgia Tech Global Research and Internships Program (GRIP) **2020**
- College of Computing Teaching Assistant (120 Students Officially Registered) **2018 - 2020**
- Georgia Tech Biomedical Engineering Robotics Club Member **2019 - 2020**
- Georgia Tech Grand Challenges Program **2018 - 2019**