Gao Xiangxi

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EDUCATION

EMORY UNIVERSITY

M.Sc. Computational Mathematics — Aug 2018 - Dec 2021
B.Sc. Applied Mathematics + Biology — Aug 2012 - Dec 2015
Robert E. Gross Lockheed Aircraft Corporation Scholarship

EXPERIENCE

BASKETBALL DATA CONSULTANT

2019 - 2022

I provided data analysis and video scouting for FIBA 3x3 teams. I presented a basketball analytics coaching workshop for the Singapore basketball federation. I was invited to present work on how to use spatiotemporal tracking data at the 2019 NBA Hackathon.

DATA SCIENCE INTERNSHIP | Computational Biology team, Dyno Therapeutics

Jan 2022 - Jun 2022

I wrote, unit tested and reviewed Python code for correcting sequencing errors in DNA barcodes and resolved statistical problems for experimental data quality control.

RESEARCH ASSISTANT | Department of Mathematics, Emory University

Oct 2017 – Aug 2018

I contributed to the Julia package StrainRecon.jl for disambiguation of microorganism strains from multi-locus sequence typing single nucleotide polymorphism data.

BIOINFORMATICS SUMMER RESEARCH | Department of Bioinformatics, Boston University

Jun 2015 – Aug 2015

I identified unusual microbial interactions associated with Crohn's Disease from human gut microbiome data using random matrix theory and theoretical ecology methods.

BIOMEDICAL ENGINEERING SUMMER RESEARCH | Center for Injury Biomechanics, Wake Forest University

May 2014 – Aug 2014

I synthesized, characterized and measured the uptake of hyaluronic acid based nanoparticles conjugated with fluorescent dye Cy 7.5 in MDA-MB-231 cells via flow cytometry.

VOLUNTEER | Lab of Molecular Immunology, National Institute of Allergy and Infectious Diseases, National Institutes of Health

Apr 2010 – Dec 2011

I confirmed the presence of intracellular chemokine receptor CXCR4 in the K562 cell line and investigated interactions between G-protein coupled receptors' recycling proteins and mutated CXCR4 implicated in WHIM syndrome.

PUBLICATION

[1] Q. Liu, H. Chen, T. Ojode, **X. Gao**, S. Anaya-O'Brien, N. A. Turner, J. Ulrick, R. DeCastro, C. Kelly, A. R. Cardones, S. H. Gold, E. I. Hwang, D. S. Wechsler, H. L. Malech, P. M. Murphy, and D. H. McDermott. WHIM syndrome caused by a single amino acid substitution in the carboxy-tail of chemokine receptor CXCR4. *Blood*, 120(1):181–189, 2012.

[2] L. Mustonen, **X.Gao**, A. Santana, R. Mitchell, Y. Vigfusson, and L. Ruthotto. A Bayesian framework for molecular strain identification from mixed diagnostic samples. *Inverse Problems*, 34:105009, 2018.