

Zishuo Zeng

76 Lipman Drive, New Brunswick, NJ 08901 | (732)763-3394 | zengzishuo@gmail.com

Education

Ph.D. | 2020 (expected) | Rutgers University, New Brunswick, NJ

- Program: Quantitative Biomedicine (bioinformatics)
- Research: predicting functional effects of synonymous variants using machine learning algorithms
- Advisor: Prof. Yana Bromberg

Ph.D. candidate | 2017 | Rutgers University, New Brunswick, NJ

- Program: Pharmaceutical Science
- Research: Anticancer effects of tocotrienols on breast cancer
- Advisor: Prof. Nanjoo Suh

M.S. | 2017 | Rutgers University, New Brunswick, NJ

- Program: Statistics and Biostatistics
- Relevant coursework: multivariate analysis, regression analysis, design of experiments, data mining, stochastic processes, artificial intelligence, time series analysis

M.S. | 2016 | Rutgers University, New Brunswick, NJ

- Program: Food Science
- Research: Modeling *Salmonella* growth under dynamically changing temperature
- Advisor: Prof. Donald W. Schaffner

B.S. | 2013 | Rutgers University, New Brunswick, NJ

South China University of Technology, Guangzhou, CHINA

- Major: Food Science
- A dual degree “2+2” program
- *Cum Laude* graduate honor

Skills

Software, Programming Languages & Operating systems

Microsoft Offices, LATEX, R, Python, MySQL, UNIX/Linux, high performance computing on computer clusters.

Statistical Analysis & Machine Learning

t-test, (m)ANOVA, generalized linear models, nonparametric methods, Markov chain, time series analysis (ARIMA, GARCH, state space models), clustering, PCA, ridge/LASSO/elastic net regression, feature selection (correlation-based, Relief, greedy search, etc.), naïve Bayes, SVM, random forest, gradient boosting, Bayesian network, deep neural network, etc.

Work Experience

Graduate Intern, Preclinical Pharmacokinetics | 06/19—8/31, 2017

Regeneron Pharmaceuticals, Tarrytown, NY

- Performed non-compartmental analysis for antibody drugs using R and Phoenix WinNonLin;
- Developed an R shiny interface to translate the variability of model parameters into the prediction interval using Monte Carlo simulations for a two-compartment Michaelis-Menten linear/nonlinear-elimination model;
- Built an R package to fit experimental data to Quasi-equilibrium model and to estimate multiple model parameters using optimization algorithms.

Statistical Consultant Intern | 05/10—07/10, 2016

Mercer County Mosquito Control, Trenton, NJ

- Analyzed and modeled field study data using Poisson regression, negative binomial regression, and various nonparametric methods;
- Conducted meta-analysis data visualization;
- Coauthored in a scientific journal.

Quality Assurance Intern | 07/10—08/31, 2014

Burger Maker, Carlstadt, NJ

- Supervised and inspected for Good Manufacturing Practices;
- Addressed consumer complaints;
- Developed an equipment-sanitizing guide.

Certificate

Big Data Training for Translational-Omics Research | 07/2016

Workshop at Purdue University, West Lafayette, IN; funded by NIH, Bethesda, MD.

Neural Networks and Deep Learning | 02/2019

Coursera online course. Verification: FT2JZ5L5ZAMF.

Presentation

Intelligent Systems for Molecular Biology (ISMB) | Chicago | 07/2018

Poster presentation: *A survey of synonymous single nucleotide variants reveals preference for specific codons and amino acids.*

Publication

Zeng, Z., Bromberg, Y. "Predicting The Effects of Synonymous Variants: Review and Perspectives". To be submitted to *Frontiers in Genetics* before Jun 28, 2019.