

# Jianyou Liu

501W 113<sup>th</sup> St, 1080 Amsterdam Ave., New York, NY, 10025 | (626) 673-0767 | jl5296@columbia.edu

## Education

**Bachelor of Science, Biochemistry and Cell Biology | University of California, San Diego**

Graduation Date: June 2018

Major GPA: 3.84

**Master of Science, Biostatistics | Columbia University**

Anticipated Graduation Date: May 2020

GPA: Work in Progress

## Course Highlights

- Proficient in applying StatKey to construct statistical models
- Proficient in conducting Chromatography, Electrophoresis, Western Blotting, ELISA, and Recombinant DNA techniques
- Experience in MATLAB, JAVA, R, SAS, and Python programming
- Familiar with BLAST search tool and the NCBI database for DNA sequence analysis
- Familiar with PyMOL for simulating structures of proteins driven by specific mutations

## Academic Experience

Undergraduate Instructional Assistant | Department of Biological Sciences, UC San Diego | Sep.2017 – Dec.2017

- Worked with Professor Alisa Huffaker and facilitated teaching Biochemistry
- Held weekly discussion sections to enhance students' learning
- Held additional office hours to resolve students' concerns
- Led midterm and final exam review sessions for a class of 300 students
- Calculated descriptive statistics for exams and generated score distributions

Biochemical Laboratory Practicum | Department of Biological Sciences, UC San Diego | Sep.2016 – Dec.2016

- Purified Lactate Dehydrogenase (LDH) through multi-step procedures and assessed purification effectiveness through Kinetic and Bradford Assays
- Designed a novel experiment to test the effect of Fibroblast Growth Factor (FGF-2) on the signal transduction pathway of NIH 3T3 cells derived from mouse embryo, determined that the maximum activation of the Ras/Erk pathway occurred at 5-10ng/mL FGF-2 treatment, while the Phospholipase C (PLC) pathway was significantly stimulated at 10ng/mL FGF-2 treatment
- Determined through the experiment that extent of activation of the PLC pathway was correlated with morphological changes in NIH 3T3 cells, and the extent of activation of the Ras/Erk pathway was correlated with Urokinase-type Plasminogen Activator induction effects.
- Synthesized two unknown parent fluorescent proteins using recombinant DNA techniques, purified them by affinity chromatography, and determined their identity as well as subunit Composition to be an Enhanced Cyan Fluorescent protein (monomer), and a DsRed (tetramer)

protein

- Using BLAST and the NCBI database, identified a protein involved in Melanoma to be a B-Raf Protein Kinase

Lab Assistant | West China Hospital of Sichuan University, Chengdu, China | July.2016- Sep.2016

- Assisted a graduate student's research project on human oral cavity cell culturing by performing experimental procedures such as centrifugation and solution preparation
- Assisted clinical dentist perform dental operations

## **Volunteer, Community, and Extra-Curricular Involvement**

Gift Shop Clerk Volunteer | Scripps Memorial Hospital, La Jolla | July.2017 – present

- Delivered flowers and other merchandise to patients' rooms
- Communicated with patients, provided comfort to them as well as their family members
- Directed and escorted patients to their destinations with wheelchair service

Volunteer | Center for Disease Control and Prevention, Chengdu, China | June.2015- August.2015

- Collected water samples from various swimming pools and tested their pollution level using both biochemical and physical detection methods, determined that 30% of the samples were unqualified according to city standards.
- Constructed sampling and null distributions based on computed statistics, determined using an ANOVA F-test that the average pollution levels were statistically significant ( $p\text{-value} < 0.05$ ) between water samples drawn at different regions of the city

Volunteer | Deyang Youbang Orphanage, Deyang, China | June.2015- August.2015

- Mentored orphans to help them overcome physiological trauma; 50% of the cases reported afterwards that the interaction was effective
- Taught Math and Science subjects to disabled orphans who couldn't go to school.

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