Wanjun Gu

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University of California, San Diego

Objective

Fourth-year undergraduate student double majoring Chemical Engineering and Economics at University of California, San Diego; Enthusiastic researcher specializing in bioinformatics, data science, physiology and toxicology; Student entrepreneur, the founder of PiggyRide, a California-based C-Corp inter-city transportation ridesharing company; Eager to apply my knowledge and skills to contribute to the understanding of science; Always thrilled about applying my specialties in statistical modeling and engineering to realize transformative business ideas.

Skills & Abilities

Computational and Programming

Linux Operation; Data Management and Cloud computing using AWS (EC2, RDS, etc.) and mySQL; General scientific programming and data analysis using R, Python and MATLAB; Machine learning using TensorFlow and Keras; Data Visualization using ggplot2, R Markdown and Plotly; Web development using R Shiny, R Shiny Dashboard, HTML, CSS and JavaScript (Bootstrap, jQuery)

Biology and Physiology Research

FPLC Chromatography, Protein expression using E-coli, UV-Vis Spectroscopy, ICP-MS, NMR Spectroscopy; West blot, ELISA; Human Physiology analysis; RNAseq Analysis; Metabolomics Analysis

Business, Marketing and Entrepreneurship

Business analysis: data-driven user retention analysis; Marketing channel management: Online advertisement; Startup management: Startup human resources, corporate formation and team development

Leadership

Student organization management; Mentoring; Event planning; Record keeping; Peer Coaching and consulting

Language

Native and Bilingual Proficiency in **Chinese** and **English**; Intermediate learner in **Spanish**; Limited Working Proficiency in **Japanese**

Education

BS, Chemical Engineering, University of California, San Diego — La Jolla, CA   09/2016 – present

BA, Economics, University of California, San Diego — La Jolla, CA   09/2016 – present

Research Experience

Undergraduate Researcher — Chantal Darquenne Lab, UCSD School of Medicine   12/2018 — present
Working on independent project regarding computational analysis of Aerosol transport and deposition in the lung

Research Intern – Goda's Lab, University of Tokyo, Japan   06/2018 — 09/2018
Working on machine learning algorithms for Microscopic Imaging super-resolution

Undergraduate Researcher — Simonson's Lab, UCSD School of Medicine   11/2017 — present
Based on Andean and Tibetan Highlander Datasets, integrating large-scale physiological and genomic research

Undergraduate Researcher — Paesani's Group of Computational Chemistry, UCSD   10/2017 — 01/2018
Learning about building models on calculating Lennard Jones potential energy of a system based on Monte Carlo Simulation

Undergraduate Researcher — Kim's Group of Biochemistry, UCSD   10/2016 — 10/2018
Working on independent project about expressing deuterated protein as a model to study long-distance electron transfer within large biomolecules

Mentoring & Leadership Experience
International Student Peer Coaching — Student Success Office at UCSD   09/2019 — present
Providing first-year incoming international student consulting; Among one of the first group of cohorts of the program

Student Organization Leader — Vice president of Chinese Engineering Society   04/2019 — present
Organizing large events (100+ participants) including research seminars, graduate school application seminars, journal clubs

Mentoring High School Student — Simonson Lab, UCSD   10/2018 — present
Provided training and guidance to high school volunteer on data entry and analysis of physiological data sets

California-based C-Corp Founder — PiggyRide, Intercity transportation ridesharing Platform   01/2018 — present
In charge of the web development team as central technician; Designing core machine-learning algorithm and applying R shiny Web App Framework to the product

Honors & Awards
Converge Summer Program for Entrepreneurship at UCSD Basement   07/2019
Summer Entrepreneurship training program for exceptional student entrepreneurs

UCSD Triton Research & Experiential Learning Scholars (TRELS)   06/2019
Highly selective research award for undergraduate students; research focus: effects of hemodilution in Andeans

UCSD Chancellor's Research Excellence Scholarships (CRES)   02/2017
Study Long-Distance Electron Transfer mechanism using the model protein Azurin

Abstracts & Publications
Wanjun Gu, et al. *Hypoxia-exercise-induced increase in hemoglobin concentration at intermediate and high altitudes: an observation of increasing hemoglobin concentration from resting state to peak exercise in Andeans, Tibetans and Han Chinese*. Accepted abstract in: Experimental Biology 2019, San Diego, CA.

Wanjun Gu, et al. *Tibetans and Han Chinese residents at intermediate altitude respond differently to chronic and simulated altitude-induced hypoxia.* Accepted abstract in: Experimental Biology 2019, San Diego, CA.

Wanjun Gu, et al. *Tibetan and Han Chinese oxygen transport at 2200 m and simulated 4200 m during peak exercise.* Accepted abstract in: Experimental Biology 2019, San Diego, CA.

Wanjun Gu, C. Darquenne, *Lobar deposition of inhaled aerosol in the mouse lung: preliminary analysis of the LAPD dataset*. Accepted abstract in 5th Aerosol Dosimetry Conference 2019, Irvine, CA.

Wanjun Gu, *Machine Learning Based Microscopic Imaging Quality Enhancement*. Accepted Report for UTRIP 2018 at University of Tokyo (https://www.s.u-tokyo.ac.jp/en/utrip/archive/2018/pdf/2_06.pdf), Tokyo, Japan

Moya EA, Yu JJ, Brown S, Gu W, et.al. *Tibetans resident at intermediate altitude (1300 m, 4327 ft) show similar hypoxic ventilatory responses but blunted heart rate responses to poikilocapnic hypoxia.* Accepted abstract in: Experimental Biology 2019, San Diego, CA.

Yu JJ, Mercader K, Gu W, et al. *Novel metabolites associated with hematocrit across lowland and Andean cohorts.* Accepted abstract in: International Society of Mountain Medicine (ISMM) 2020