JIUJIA ZHANG

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EDUCATION

University College London   September 2020 - September 2021

MSc in Computational Statistics and Machine Learning

<u>Relevant Modules</u>:   • Applied Bayesian Methods   • Multivariate and Spatial Statistics
• Statistical Computing   • Bioinformatics   • Graphical Models   • Machine Learning

Imperial College London   October 2016 - June 2020

MEng in Biomedical Engineering (Minor in Electrical Engineering)

Programme Average: 79.67%   (WES Evaluated GPA: 3.96/4.00)

Awards: Engineering Dean's List (top 10% of the cohort)

<u>Relevant Modules</u>: • Biological Modelling   • Medical Imaging   • Physiology
• Probability and Stochastic Processes   • Programming   • Signal Processing

UNDERGRADUATE RESEARCH EXPERIENCE

Individual Project for Master of Engineering Thesis   November 2019 - June 2020

- Literature review on optimization-based parameter estimation algorithms for sparse data model calibration, including: meta-heuristic, local and hybrid optimization methodologies.

- Implemented and tested the performance of genetic algorithm and Gauss-Newton algorithm with simulated data generated by an invasive aspergillosis *in silico* model.

Project supervisors: Dr. Reiko Tanaka and Miss Tara Hameed.

Undergraduate Research at Tanaka Group   July 2019 - September 2019

Imperial College London, UK

- Studied various parameter inference methods for *in silico* ODE models from both frequentist and Bayesian approach.

- Investigated the applicability of generalized smoothing algorithm and approximate bayesian computation on Lotka-Volterra model.

Project Supervisors: Dr. Reiko Tanaka and Miss Tara Hameed.

Ultrasound Lab for Imaging and Sensing   July 2018 - September 2018

Imperial College London, UK

- Investigate Nanodroplet contrast behaviour in super-resolution imaging with different phantom tube organisations and ultrasound activation pulse sequences.

- Coded a Matlab script to automatically detect the regions of interest of the ultrasound imaging sequences.

Project Supervisors: Prof. Mengxing Tang and Dr. Ge Zhang.

ACADEMIC GROUP PROJECT

Undergraduate Third Year Group Project   October 2018 - June 2019

- Collaboration between nine group members from Engineering and Medicine Departments.
- Developed an ECG gating and respiratory motion correction system compatible with Verasonics Vantage 128$^{\text{TM}}$ ultrasound imaging platform.
- Implemented a QRS complex detection algorithm for real-time ECG signal and an image registration algorithm.

Project supervisors: Prof. Mengxing Tang and Dr. Matthieu Toulemonde.

INDUSTRIAL EXPERIENCE

Department of Medical Equipment   July 2017 - August 2017

Henan Province People's Hospital, Zhengzhou, China

- Carried out weekly medical device safety inspection for the hospital's MRI, SPECT, CT and PET scans.
- Learned skills in diagnosing and repairing minor medical equipment malfunctioning.

SKILLS

Languages fluent in:	English, Mandarin
Technical knowledge:	Multivariate Calculus, Linear Algebra, Control Theory, Ordinary/Partial Differential Equations, Generalized Linear Models, Probability and Stochastic Processes, Bayesian Statistics, Mathematical Modelling in Deterministic/Stochastic Processes, Information Theory, Optimization, Computational Neuroscience, Supervised/Unsupervised Learning, Deep Learning.
Software & Tools:	C, C++, Julia, MATLAB, Python, R, Latex, Excel, Orcad, Pspice, Quartus, Solidworks.
Wet Lab Skills:	Titration, PH electrode, Spectrophotometer, Electropherogram, Microscope.
Dry Lab Skills:	Oscilloscope, Multimeter, Soldering, Stripboard.