

# Ran Zihuan

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## Education

### Imperial College London

London, UK

*BSc Mathematics and Statistics for Finance*

*Oct 2016–June 2019*

**Past courses:** Mathematical Computation, Analysis, Algebra, Probability & Statistics, Statistical Modelling, Mechanics, Differential Equations, Multivariate Calculus, Numerical Analysis

**Current courses:** Computational partial differential equations, Time Series, Stochastic Simulation, Scientific computation, Methods for Data Science, Mathematical Finance: An Intro to Option Pricing, High Performance Computing, Credit Scoring

## Research Experience

### Undergraduate Research Program(UROP)

London, UK

*Simulation of Stochastic Differential Equations and SDE with Uniform Distribution*

*Apr–Aug 2018*

Supervisor: Professor Damiano Brigo

### Imperial College Research Project

London, UK

*Lagrangian Mechanics and Rigid Body Motion*

*June 2018*

Supervisor: Dr. Ryan Barnett

## Working and Project Experience

### Imperial College Data Science Society

London, UK

*Advance project team member*

*Oct 2018–present*

- Trained and validated **decision tree** model for **churn prediction** project
- Gave presentation and explained model detail
- Project evaluating the influence of UK charity, School-home support with technical help from PwC

### Citadel UKDatathon

Cambridge, UK

*Team Member*

*Nov 2018*

- Build data pipeline to clean data sets using python
- Visualized a dashboard of relationship between chemicals in water supply and industry income over all US counties using Tableau
- Built logistic regression model and show statistical evidence in final report
- Validated model and refined model

### Hokodo

London, UK

*Data Scientist Intern*

*July–Aug 2018*

- Designed and built database for large-scale company data from scratch
- Programmed automated data processing function in **Python** to clean **JSON** responses from data providers' API
- Manipulated companies data and loaded to database using **SQL** queries
- Implemented **exploratory data analysis** and built a preliminary scorecard model for credit scoring

### Imperial College Data Challenge/Transport for London

London, UK

*Delay Prediction of London Underground Operations*

*May 2018*

- Cleaned and implemented EDA for datasets containing history delays in recent 5 years
- Learned and implemented **PCA**
- Trained and **cross-validated** model to predict delaying time
- Visualized using **Tableau** and presented to business partners and mentors

### UC Berkeley MEng Student Project

Berkeley, CA, USA

*IoT for Precision Agriculture*

*Apr 2018*

- Extracted and cleaned large JSON datasets from **Azure**
- Visualized dashboards for website display

**LinkedIn Analytic University Program****Mountain View, CA, USA***Insight Program**Mar 2018*

lectures and introductory projects on data cleaning, data validating, ETL and visualization

**Imperial College 1st Year Poster Project****London, UK***Overview of Heisenberg Uncertainty Principle and 1D Schrodinger Equation**June 2017*

Supervisor: Professor Andrew Parry

**Accenture****Dalian, China***Insight Program, Supply Chain introduction**2016*

## Teaching Experience

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**Action Tutoring/Chelsea Academy****London, UK***Volunteer GCSE Math Tutor**Oct 2016–Apr 2017*

Helped year 10 and 11 students at Chelsea Academy with their mathematics and GCSE exams.

**Dalian A-level Exam Centre****Dalian, China***A-level Math Tutor**2016***Waterloo Mathematics Competition***Global top 25%**2015*

## Computing Skills and Projects

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**R:** Analysis of drug usage, Analysis of Challenger's O-Ring failure, Factor analysis for Premier Leagues scoring, Credit Scoring model**Matlab:** Numerical analysis direction: CGS algorithm**Python:** Stochastic differential equation simulations, RSA Cipher coursework and extensive use in industrial projects**SQL:** Transformed and imported UK company data into cloud database**Fortran:** Simulations of Brownian motion**HTML:** Introductory web design**LaTeX:** Scientific report and poster making**Tools:** Tableau, sklearn, pandas, numpy, xgboost, PgAdmin, AWS, LaTeX, openAI

## Languages

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**Mandarin:** Native language**English:** Full professional proficiency*IELTS Overall 7.5 with reading 9*

## Activities

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**Ballet, Contemporary:** 13-year dancing experience, Imperial ballet competition team**Wine Tasting:** WSET level 1 certificate**Data science:** Imperial College Data Science Society advance project team member**Kendo:** Imperial Kendo team member