

# Jingkai Sun (Kyle)

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## EDUCATION

### Imperial College London

*MSc Computational Methods in Ecology and Evolution*

London, UK  
Oct, 2020 – present  
**Relevant Modules:** Biological Computing in Python/R, Biological Data structures in C, High Performance Computing, Ecological and Evolutionary Modelling

### University of Birmingham

*BSc Money Banking and Finance*

Birmingham, UK  
Sept, 2017 – Jul, 2020  
**Relevant Modules:** Advanced Finance, Macroeconomics, Microeconomics, Econometrics, Optimisation, Advanced Mathematics and Statistics for Economics, Financial Accounting, Monetary Policy

## WORK EXPERIENCE

### China Pacific Insurance Company (CPIC)

*Asset Management Intern, Portfolio and Mandated Management Department*

Shanghai, China  
Jan, 2021 – Apr, 2021  
• Helped developed Brinson and Barra multi-factor models using Python numpy, pandas and datetime packages.  
• Implemented fund stimulation algorithm using Python, visualising the result of stimulation using R ggplot2 package.  
• Developed methods to quantify the performance of fund manager using Wind-Python API, Jupyter Lab and Hive queries.

### Tencent

*Part-Time Assistant*

Beijing, China  
Jul, 2020 – Aug, 2020  
• Extracted correlated features between searched queries and recalled news titles of Tencent News application by Python.  
• Leveraged LightGBM model to train and predict the mined data, obtaining 70% accuracy of the prediction.  
• Transferred data into LETOR dataset format, using LambdaRank algorithm to rank the documents by the queries.

### Shenyin & Wanguo Securities

*Industry Research Intern*

Shanghai, China  
Aug, 2018 – Oct, 2018  
• Updated macroeconomic databases derived from Wind using Excel, summarising daily and weekly briefings.  
• Hosted investor meetings of listed companies, summarising key points of the conference.  
• Writing in-depth reports for agricultural and biological companies, responsible for data collecting, analysis and visualisation.

## PROJECT WORK

### Biological Computing Miniproject *Github Link*

Nov, 2020 – Jan, 2021  
• Developed model fitting program using Python, fitting mechanistic and phenomenological models of thermal responses for 903 datasets from BioTraits database.  
• Evaluated and visualised model results (e.g.  $R^2$ , AICs, BICs) for 4 different models using R.  
• Wrote up the final comparing results using L<sup>A</sup>T<sub>E</sub>X, integrating all programming scripts using shell language.

### Web Scraping Project *Github Link*

May, 2020  
• Mined the admission data of universities in the UK using Python scrapy framework.  
• Parsed HTML and Json structures of the websites using xpath and regular expressions.  
• Saving date using sqlalchemy package in Python, cleaning and visualising mined data using R.

### Machine Learning Stock Forecast Project *Und. Dissertation*

Dec, 2019 – Mar, 2020  
• Created ARIMA and SVR models using SMA, RSI, CCI and other technical indicators as features  
• Fitted and predicted the model by R using e1071 and caret packages, plotting the fitted data using ggplot2 package  
• Tuned model parameters by implementing a 10-fold cross-validation algorithm using R  
• Evaluated the fitting models by RMSE and MAPE, concluding that the Radial SVR outperforms the ARIMA model

## OTHER SKILLS

**Core Skills:** Data Mining/Analysis (2 years), Quantitative Finance (2 Years), Machine Learning (1 year)

**Programming:** Python, R, Bash/Shell, Excel (VBA), Wind, C/C++, L<sup>A</sup>T<sub>E</sub>X, Stata

**Databases:** ElasticSearch, MySQL, SQLite, MongoDB

**Languages:** English (fluent), Chinese (native)

**Certificates:** Math for ML (Coursera), ML Specification (Coursera), LSE-PKU Summer School Certificate