Wenjie Fan

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EDUCATION & AWARDS

Keble College, University of Oxford | *MMath Mathematics and Statistics*   2020 – 2024
- Expected First class, awarded the College Scholarship for the Year 2020/2021

Hangzhou No.2 High School of Zhejiang Province   2017 – 2020
- A-levels: Maths A*, Further Maths A*, Physics A*

RESEARCH EXPERIENCE

Oscillatory Neck Propagation in Polymer Films   Summer, 2022

Supervisor: Prof Ed Brambley (Mathematics Institute & WMG, University of Warwick)

- Conducted literature review to study stress oscillation in PET and some numerical schemes
- Fine-tuned parameters by fitting stress-strain curve, analysing the practical implications and sensitivities
- Refined the most restrictive assumption in the previous model by introducing varying density
- Presented findings to a WMG researcher, proposing experiments for further study

Face Mask Detection   Summer, 2021

Online Research Seminar & Group Project

- Worked in a group of three members and developed a face mask detector by python
- Proposed the idea and learned the principle and implementation of the YOLOv3 model
- Learned basic computer vision and produced a paper included in SPIE Proceedings

Restricted Three-Body Systems   Summer, 2020

Group Project

- Led a team of five students to analyse Restricted Three-Body Systems
- Designed MATLAB programs to solve and display in 3D the paths and effects of perturbations
- Awarded the best project and presentation among the 10 groups

ADDITIONAL EXPERIENCE

Oxford Machine Learning School | *Summer School*   Aug. 2022
- Attended the ML x Fundamental and ML x Finance track
- Learned basic Gaussian process and Bayesian optimisation, listened to the research of presenters

Ipsos China | *Customer Experience Innovation Intern*   Aug. – Sept. 2021
- Responsible for translation of survey reports for Swiss Re and desk research
- Helped with the analysis of NPS of Manulife-Sinochem Life Insurance in the touchpoint of claims
- Gained insights into pet insurance and ways of analysing customer surveys

Pennon Education | *Tutor for Interview*   2020 – 2021
- Responsible for mock interviews and feedback of more than 30 students
- Participated in establishing a question bank for math interviews in Oxford
- The majority of the students got into Oxford and Imperial College

SKILLS & INTERESTS

Languages: Chinese (Native), English (Fluent)

Computer Proficiencies: Python, MATLAB, Hugo (website), Final Cut Pro

Interests:
- Music: Lead saxophonist in junior high school
- Video Editing: Edited a couple of Anime Music Videos, gaining thousands of views
- Society: Oxford Union, the Invariants, OxAI, OUCS (coordinator)

COURSE MODULES[1]

Part B | *Third year (upcoming)*

• Michaelmas Term:

    Information Theory   Graph Theory   Applied Statistics   Statistical Inference

• Hilary Term:

    Statistical Machine Learning   Computational Statistics

    Applied Probability   Optimisation in Data Science

Part A | *Second year*

• Michaelmas Term:

    Linear Algebra   Metric Space and Complex Analysis

    Differential Equations I   Probability

• Hilary Term:

    Differential Equations II   Numerical Analysis

    Statistics   Integration

• Short Options:

    Graph Theory   Integral Transforms   Mathematical Modelling in Biology

Prelims | *First year*

• Michaelmas Term:

    Linear Algebra I   Analysis I (Sequences and Series)   Geometry

    Introductory Calculus   Probability

• Hilary Term:

    Linear Algebra II   Analysis II (Continuity and Differentiability)

    Dynamics   Multivariable Calculus   Fourier series and PDEs

• Trinity Term:

    Groups and Group Actions   Analysis III (Integrations)

    Statistics and Data Analysis   Constructive Mathematics

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[1] For course details, one can check Oxford's [course management archive](#).