Vedang Joshi

Contact Information

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Nationality **British**

Education

University of Bristol, Bristol, UK **Sept 2018 - Present**

Master of Engineering (MEng), Engineering Mathematics
Dissertation Topic: A lateral line sensor based mechanistic algorithm for emergent fish schooling behaviours in multi-agent swarms
Advisor: Dr. Sabine Hauert
Activities and Societies: Bristol Engineering Mathematics Society, Bristol Swimming Society, Bristol Ice Skating Society

Royal Wootton Bassett Academy Sixth Form, Swindon, UK **Jun 2016 - Jun 2018**

A-Levels: Mathematics, Further Mathematics, French, Physics, EPQ
Activities and Societies: Senior Prefect, Sixth Form Leadership Team

Research Experience

University of Cambridge, Cambridge, UK

Research Assistant, Epidemiology and Modelling Group **Jun 2021 - Sept 2021**

- Advisors: Dr. Renata Retkute, Dr. Cerian Webb and Prof. Chris Gilligan
- Spatially-explicit stochastic dynamic epidemiological simulations on Citrus Huanglongbing.
- Modelling the spread of tree pests through road networks using stochastic simulations.

Imperial College London, London, UK

Research Assistant, Biomathematics Group **Jun 2020 - Oct 2020**

- Advisors: Dr. Florian Klimm and Prof. Nick Jones
- Node-centralities in mitochondrial protein interaction networks for predicting gene essentiality.

Teaching Experience

University of Bristol, Bristol, UK

Demonstrator (Teaching Assistant) **Jan 2022 - May 2022**
EMAT10006 Further Computer Programming: Module designed for students to be fluent in the fundamentals of programming in Python. Taught basic software engineering and collaborative skills, so students are able to develop computer code efficiently in groups.

Demonstrator (Teaching Assistant) **Sept 2021 - May 2022**
EMAT22220 Mathematical and Data Modelling 2: Coursework based module designed to help students to improve their ability to apply mathematical modelling and data analysis skills to the solution of problems of academia, industry and business.

Demonstrator (Teaching Assistant) **Sept 2020 - May 2021**
EMAT10704 Discrete Mathematics 1: Teaching included number systems and arithmetic, logic and proof, sets, relations and functions. Includes graph theory, and the link between continuous and discrete mathematics. Mode of teaching split between online and face-to-face learning.

STEM Outreach **University of Bristol**, Bristol, UK

SCEEM (School of Engineering) Outreach Ambassador **Oct 2019 - Jun 2020**
The role required me to go to schools in the Bristol area and deliver STEM workshops and presentations for students ranging from 10-18 years.

Assistant, Urban Gulls Flight, Fluid and Aerodynamics Research Group **Nov 2019 - Feb 2020**
Duties included helping Cara and Anouk give talks on their research to high school students, conducting workshops and helping repair drones used in their presentations.

Achievements

Academic Achievement Award **2018**
Royal Wootton Bassett Academy
One of 18 recipients: For outstanding achievement in A-Level results

Award for Services to the School & Community **2018**
Royal Wootton Bassett Academy

Silver, Gold Award **2017, 2018**
Duke of Edinburgh Award

Bronze, Silver Medal **2015, 2016**
UK Mathematics Challenge

Technical Skills

- **Programming Languages**: Python, MATLAB, limited experience in C, R, AgentSpeak
- **Operating Systems**: MS Windows, MacOS/iOS, Unix/Linux
- **ML/Statistical learning frameworks [Python]**: Classification (Latent Dirichlet Allocation), Regression (Extra-trees, Sequential Forward Selection), Time series, Clustering (KNN), Feature engineering (Dynamic time warping), Natural Language Processing (NLP), Markov chains
- **High Performance Computing (HPC)**: SLURM, Moab/Torque proficient
- **Software**: Maple, RStudio, Wolfram Mathematica, Jupyter Notebook/Google Colab, QGIS (Open Source Geographic Information System), GitHub, MS Office
- **Typography**: LaTeX

Memberships and Affiliations

Student Member, Institute of Mathematics and it's Applications, UK **Dec 2019 - Present**

Languages

English **Native proficiency**

Marathi **Native proficiency**

Hindi **Fluent**

French **Professional working proficiency**

References

Available upon request