

# Vedang Joshi

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## CONTACT INFORMATION

📞 Mobile: [REDACTED]  
✉ E-mail: vedang0401@gmail.com  
🌐 Homepage: <https://vedang-joshi.github.io/>  
in LinkedIn: [www.linkedin.com/in/vedangjoshi/](http://www.linkedin.com/in/vedangjoshi/)

## EDUCATION

**King's College London**, London, UK **Oct 2023 - Present**

Doctor of Philosophy - PhD, Computational Engineering  
Research Interests: Development of theoretical and computational fluid dynamical techniques to model natural swimming flow problems. Focus on the emergence of swarming behaviours in fish.  
Part-time PhD, funded by Boeing Defence UK Ltd.  
Advisors: Dr. Julia Li and Prof. David Moxey

**University of Bristol**, Bristol, UK **Sept 2018 - Jul 2022**

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

## INDUSTRY EXPERIENCE

**Boeing Defence UK Ltd, a subsidiary of The Boeing Company**

*Rotational Graduate Scheme* **Sept 2022 - Present**

Two-year graduate rotational scheme with  $4 \times 6$  month rotations around the UK.

- Prosperity & Economic Data, UKDSC (Secondment), Farnborough, UK [Jan 2024 - Present]
- Strategic Experimentation & Analysis, Fleet, UK [Sept 2023 - Dec 2023]
- Research, Development & Engineering Strategy, Bristol, UK [March 2023 - Aug 2023]
- TLCS-2 Project Engineering, Gosport, UK [Sept 2022 - Feb 2023]

## RESEARCH EXPERIENCE

**University of Cambridge**, Cambridge, UK **Jun 2021 - Sept 2021**

*Research Assistant, Epidemiology and Modelling Group*

- 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. Efforts acknowledged in Modelling the spread of tree pests and pathogens in urban forests.

**Imperial College London**, London, UK **Jun 2020 - Oct 2020**

*Research Assistant, Biomathematics Group*

- 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: Fundamentals of programming in Python. Taught basic software engineering skills (OOP etc.) and collaborative programming skills.

*Demonstrator (Teaching Assistant)*

**Sept 2021 - May 2022**

EMAT22220 Mathematical and Data Modelling 2: Coursework based module designed to apply mathematical modelling and data analysis skills to the solution of problems of academia & industry.

*Demonstrator (Teaching Assistant)*

**Sept 2020 - May 2021**

EMAT10704 Discrete Mathematics 1: 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.

## ACHIEVEMENTS

### **The Boeing Company Cash Prize**

**2023**

*Research, Development & Engineering Strategy, Nov 2023*

Going above and beyond to conduct testing in support of an IRAD growth project during my second 6 months in the graduate scheme.

*TLCS-2 Project Engineering, May 2023*

Delivering the responsibilities of a Project Engineering level 4 Technical Lead Engineer during the first 6 months of the graduate scheme.

### **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*

### **Bronze, Silver Medal**

**2015, 2016**

*UK Mathematics Challenge*

## TECHNICAL SKILLS

- **Programming Languages:** Python, MATLAB
- **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, AnyLogic, Jupyter Notebook/Google Colab, QGIS (Open Source Geographic Information System), GitHub, MS Office
- **Typography:** L<sup>A</sup>T<sub>E</sub>X

## MEMBERSHIPS AND AFFILIATIONS

Associate Member, The Institute of Engineering and Technology, UK

**April 2023 - Present**

Associate Member, The Institute of Mathematics and its Applications, UK

**Dec 2019 - Present**

## LANGUAGES

**English**

**Native proficiency**

**Marathi**

**Native proficiency**

**Hindi**

**Fluent**

**French**

**Professional working proficiency**

## REFERENCES

**Available upon request**