

# Vedang Joshi

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## CONTACT INFORMATION

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## 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. Provide advanced control and optimisation strategies for the bio-mimic systems. 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.

- Strategic Experimentation & Analysis, Fleet, UK [Sept 2023 - Present]
- 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: 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.

	<p><i>Demonstrator (Teaching Assistant)</i> <b>Sept 2021 - May 2022</b>  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.</p> <p><i>Demonstrator (Teaching Assistant)</i> <b>Sept 2020 - May 2021</b>  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.</p>	
ACHIEVEMENTS	<p><b>The Boeing Company Cash Prize</b> <b>2023</b>  <i>Research, Development &amp; Engineering Strategy, Nov 2023</i>  Going above and beyond to conduct testing in support of an IRAD growth project during my second 6 months in the graduate scheme.</p> <p><i>TLCS-2 Project Engineering, May 2023</i>  Delivering the responsibilities of a Project Engineering level 4 Technical Lead Engineer during the first 6 months of the graduate scheme.</p> <p><b>Academic Achievement Award</b> <b>2018</b>  <i>Royal Wootton Bassett Academy</i>  One of 18 recipients: For outstanding achievement in A-Level results</p> <p><b>Award for Services to the School &amp; Community</b> <b>2018</b>  <i>Royal Wootton Bassett Academy</i></p> <p><b>Bronze, Silver Medal</b> <b>2015, 2016</b>  <i>UK Mathematics Challenge</i></p>	
TECHNICAL SKILLS	<ul style="list-style-type: none"> <li>• <b>Programming Languages:</b> Python, MATLAB</li> <li>• <b>Operating Systems:</b> MS Windows, MacOS/iOS, Unix/Linux</li> <li>• <b>ML/Statistical learning frameworks [Python]:</b> 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</li> <li>• <b>High Performance Computing (HPC):</b> SLURM, Moab/Torque proficient</li> <li>• <b>Software:</b> Maple, AnyLogic, Jupyter Notebook/Google Colab, QGIS (Open Source Geographic Information System), GitHub, MS Office</li> <li>• <b>Typography:</b> L<sup>A</sup>T<sub>E</sub>X</li> </ul>	
MEMBERSHIPS AND AFFILIATIONS	<p>Associate Member, The Institute of Engineering and Technology, UK <b>April 2023 - Present</b></p> <p>Associate Member, The Institute of Mathematics and its Applications, UK <b>Dec 2019 - Present</b></p>	
LANGUAGES	<p><b>English</b> <b>Native proficiency</b></p> <p><b>Marathi</b> <b>Native proficiency</b></p> <p><b>Hindi</b> <b>Fluent</b></p> <p><b>French</b> <b>Professional working proficiency</b></p>	
REFERENCES	<p><b>Available upon request</b></p>	