Connor Tynan

+44 7724 870844   connor.tynan@outlook.com   LinkedIn   GitHub   Website

Education

University of Exeter   Sept 2019 — June 2023
Master of Mathematics (MMath) Degree (Hons) - First Class (75.6%)   Exeter, UK

Skills

Programming: Python, MATLAB, RStudio, HTML/CSS, JavaScript
Libraries & Frameworks: pandas, NumPy, scikit-learn, seaborn, Matplotlib, Flask, MATCONT
Tools: AWS, Git, VSCode, Jupyter

Projects

Mathematically Modelling Microbial Interactions – GitHub   Sept 2022 — May 2023
University of Exeter   Exeter, UK

- Performed an extensive literature review, implemented existing models and reproduced results to establish an initial understanding of the field
- Preprocessed microbial growth data before fitting to an existing mathematical model using the Hamiltonian Monte Carlo algorithm, validating fits using MCMC convergence diagnostics
- Investigated underlying dynamics using steady-state analysis and bifurcation theory, finding a transcritical bifurcation to underpin changes in interactions

Modelling Epidemic Spread in a Dynamical Network – GitHub   Jan 2022 — Apr 2022
University of Exeter   Exeter, UK

- Created a probabilistic dynamical SIR network ($\leq$ 1000 nodes) using EpiModel (RStudio)
- Performed 2D sensitivity analysis to determine how network parameters affect the outcome of simulations
- Extended the model by introducing an additional 'susceptible' state (SIRS), accounted for time-sensitive events and factored in disease evolution, improving model realism
- Published in the Undergraduate Science Journal University of Exeter (2023)

Numerically solving cloud droplet growth by condensation   Jan 2021 — Mar 2021
University of Exeter   Exeter, UK

- Investigated cloud droplet growth and relevant environmental implications in a team of 7
- Employed a collection of numerical methods (RK4, Forward Euler, etc) to solve a series of 5 ODEs using MATLAB
- Compared appropriateness of numerical methods through an evaluation of their numerical stabilities

Personal Website – GitHub – Demo   Aug 2023 — Present

- Designed a website using HTML to blog and showcase portfolio work
- Styled content using the Tailwind CSS framework with flowbite and DaisyUI plugins
- Implemented responsive design best practices using JavaScript and Tailwind utility variants

Experience

Mathematics Tutor   Oct 2023 - Present
Self Employed   Aldershot, UK

- Evaluated tutee's weaknesses and planned sessions accordingly, via tailoring of work sheets and study resources thus helping them establish a strong mathematical foundation

Vaccine Administration Assistant   Mar 2021 — Sept 2021
NHS England   Aldershot, UK

- Supported healthcare professionals in administering COVID-19 vaccinations (fetching patient details, updating patient records, organising equipment, etc.)
- Interacted with up to 100 patients per day whilst maintaining a professional and approachable attitude
- Improved clinic efficiency by saving clinician's time, hence, reducing average appointment length