Andrei Lazer

andrei.lucian.lazer@gmail.com | linkedin.com/in/andrei-lazer | andrei-lazer.github.io

Education

University of St Andrews — St Andrews, Scotland
Bachelor of Science (Honours) Mathematics — September 2022 – June 2025

- Predicted First Class Honours.
- **Dissertation**: *Time-splitting spectral methods for the Schrödinger equation in the semi-classical regime.*
  - Re-implementing methods for time-independent potentials in Python.
  - Extending current research to time-dependent potentials and the non-linear Schrödinger equation.
- **Relevant Modules:**
  - Stochastic Dynamics in Biology
  - Markov Chains & Processes
  - Financial Mathematics
  - Computational Numerical Analysis

The Latymer School — London, England
GCSEs and A-Levels — September 2015 – June 2022

- **A-Levels**: Maths (A*), Further Maths (A*), Physics (A*), French (A).
- **GCSEs**: 10 subjects, all 8s and 9s (A* equivalent).

Publications

Edward M. Redfern, Andrei L. Lazer, Dan Lucas
Dynamically relevant recurrent flows obtained via a nonlinear recurrence function from two-dimensional turbulence
In press at Physical Review Fluids *(Link)*
DOI: 10.48550/arXiv.2408.05079
This paper introduces methods for extracting unstable periodic orbits from fluid flows and applies statistical techniques to reconstruct the flow. This work resulted from an internship at the University of St Andrews.

Experience

NVIDIA — Remote
Automotive Cryptography Intern — June 2024 - Present

- Summer internship in the cryptography team.
- Directed fuzzing of the PKCS#11 library, identifying and resolving bugs in the hashing API.
- Extended to a part-time role based on performance and contribution to the team.

University of Oxford — Oxford, England
Research Intern — July 2023 - August 2023

- Project Title: *Finding AdS_4 solutions using genetic programming.*
- Research project fully funded by the University of Oxford in the summer after my first year.
- Used Julia to construct a loss function which quantifies the suitability of a solution to the problem.
- Developed a prototype which, given one of the equations, could find the other using this approach.
- Presented research to a group of academics and peers.

University of St Andrews — St Andrews, Scotland
Research Intern — March 2023 - May 2023

- Project title: *Recreating turbulent statistics from recurrent flows.*
- Funded research internship during the second semester of my first year.
- Applied feature pruning and a relative entropy loss function to predict the statistics of a turbulent flow.
- Contributed to research that resulted in the publication of a peer-reviewed paper on fluid turbulence.

Skills

- In order of proficiency:
  - **C**: 6 month internship working on embedded systems in C on QNX.
  - **Git**: Internship at NVIDIA required collaborating with hundreds of other developers using Git.
  - **Python**: Computational modules and research internships. Most experience with NumPy, Matplotlib, SciPy, and pandas.
  - **LaTeX**: writing a 30+ page dissertation in mathematical physics.
  - **bash, C++**: comfortable, but not experienced.
- **Languages**: Native in English and Romanian. Conversationally fluent in French. Basic German skills.

Awards

- **EasyA x Stacks Hackathon**: Awarded £3,500 for developing a decentralized betting system on Bitcoin using smart contracts.
- **UK Physics Olympiad 2021**: Self-taught A-Level physics content and won a gold medal.
- **UK Linguistics Olympiad 2022**: Self-taught linguistics, earning a gold medal and advancing to the national team selection round.