Lyubomir Shoylev

+359 877 95 44 34 | luboshoilev@gmail.com | Lyubomir Shoylev | lyubomirShoylev

About me

Recent Mathematics and Physics graduate. Like thinking about complex problems and tackle them using creative maths. Passionate in about science communication and public engagement.

Skills

PROGRAMMING Python, NumPy, Jupyter Notebooks, Pandas, MATLAB, LaTeX, C++
SOFTWARE Linux Distros, Git & GitHub, VS Code, Slack, MS Office Suite
GENERAL Problem Solving, Collaboration, Public Speaking, Organization Skills, Teaching
LANGUAGES

Bulgarian	—	Native
English	—	Full Proficiency
Russian	—	Basic Proficiency

Work History

COMPOS Programme
(details)
Tutor *(Oct 2022 – Jul 2023)*
• Prepared and delivered weekly 1.5 hour classes to Yr 12 students from covering advanced maths and physics.
• Graded homework assignments.
• Reported monthly workload to supervisors.

Awards

2019 - Silver - International Olympiad in Astronomy and Astrophysics
2019 - National - Laureate of the National Olympiad in Philosophy
2017 - Exceptional Award from "1000 stipendii" project
2017 - Bronze - International Astronomy Olympiad

Last Updated: Jul 2023

Education

University of Oxford, St Hilda's College | *Oxford, UK*

MMathPhys in Mathematical and Theoretical Physics | *Jul '23*
• Part C Classification: Distinction. Average 85% in forming exams.
• Part A&B Classification: First Class. Average 80+% in exams, allowing transfer to the MMathPhys from the Physics track.
• 'College Scholarship in Physics' for all four years.
• 'Commendation for Practical Work' for the first two years.

High School of Maths and Nat. Sciences | *Burgas, Bulgaria*

HS Diploma (Diploma za Sredno Obrazovanie) | *Jun '19*
• Overall grade: 5.92/6.00 with 'Matura' in Maths with grade 6.00/6.00. Appointed Assistant Flagbearer '18–19 for achievements in Natural Sciences.

Experience

AstroPy Library | *2022 Beli Brezi Astro Summer School*

A library of science scripts for astronomical data using **AstroPy Project**.
• Devised the project task and scope of work.
• Developed a data reduction pipeline using the **ccdproc** framework.
• Prepared data analysis routines using AstroPy in **Jupyter Notebooks**.
• Documented the notebooks and the **GitHub** repository for future use.
• Taught students the physics and how to use the prepared routines.

Computing Project: ODE Solver | *2nd Year lab practical*

A project about numerical study of differential equations(ODEs) in **Python**.
• Used an **OOP** approach — implemented a generic ODE master class; specified to the problem via an **inherited** class.
• Implemented the internal numerics using **Numpy** array functionality.
• Extended the project by studying the numerical accuracy of the solver.
• Implemented **multithreading** to speed up execution of calculations.
• Produced a short report in **LaTeX** with figures using **Pyplot**.

Masters Dissertation | *Gravitational effects on spin precession*

A 6-month research project supervised by Dr Mario Reig.
• Investigated background literature covering vast ranges of theoretical physics: Quantum Mechanics, the Standard Model, and General Relativity.
• Developed applied mathematical and analytical skills. • Reported progress to supervisor in a monthly written report+meeting.
• Produced a 60 page dissertation as a research review on the topic.

Outreach

Co-founded the 'Astro School Burgas'(AsBs) NGO in 2021 focused on astronomy education and science outreach. Organised with the AsBs team:

National round of Astronomy Olympiad | *6–8 May, 2022*

A 3-day event with 150 attendees, jointly organised with local authorities.
• Organised the team workflow in **Trello** using automatisation.
• Prepared participation and feedback forms in **Google Forms** and information packets and brochures for print in **MS Word**.
• Managed a team of volunteers on-site for various planned events.

Astro Forum Burgas | *Jan 2016–2020*

A public event engaging the public with contemporary astronomy. I took on various tasks, including booking the venue, giving lectures, and interacting with attendees.