Harik Sodhi

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About Me

I am an undergraduate student in Engineering at Oxford with an interest in Mathematics, Physics and Programming, as well as understanding how the world works. This is exemplified by successful participations in olympiads and competitions across Physics, Maths and Computer Science, most notably a silver medal at the International Physics Olympiad. I am eager to apply this knowledge in new situations and model the real world!

Education

Queen Elizabeth's School, Barnet *Sept 2018 – June 2025*
High School

- Extended Project Qualification (2024) (A*, see projects for more details)
- A-Level Qualifications (2025): Mathematics (A*) Further Mathematics (A*) Physics (A*)

University of Oxford (Offer Holder) *Oct 2025 – June 2029*
MEng in Engineering Science (starting in October 2025)

Scored 90 in Physics Admissions Test (PAT), among top 10 scores out of thousands of applicants for Physics, Physics and Philosophy, Engineering and Material Science.

Experience

RECF *Sept 2021 – May 2024*
VEX Robotics

- 2021-22: Qualified for VEX World Championships, ending with a winning record
- 2022-24: Mentored a team of competitors new to VEX to a reasonable finish at the National Championships, juggling this with preparing for GCSEs and competing
- 2023-24: Finished first in qualification at the UK National Championships, qualifying for the World Championships again
- Roles: Team captain, lead programmer (C++), lead designer (Solidworks and Fusion 360)
- Student Advisory Board (2023-24): Part of a team advising the RECF through monthly meetings with the CEO, selected due to my contribution to the VEX Robotics community, helping students around the world.

IPhO *June 2024 – July 2025*
Silver Medallist (2025)

Competed at IPhO 2025 in Paris, coming 49th out of 420 competitors (top ranked Western European), with only one year of informal training and 2 weeks of formal training.

Skills

Technical: Python, C++, LaTeX, Solidworks (CSWE), Ansys, MATLAB, Excel

Non-technical: Leadership, Teamwork, Problem Solving, Research

Selected Projects

Extended Project Qualification (A*, How can the design of aircraft be improved to improve environmental sustainability in the aviation sector?)

- Used Computational Fluid Dynamics as well as industry-level certifications like CSWE to simulate different designs for aerofoils and used techniques like Bayesian Optimisation to reduce drag while maintaining lift.
- Tools Used: Python, SolidWorks, SolidWorks API, Ansys, Ansys API, Excel

Advent of Code 2024

- Solved all parts except day 24 and day 21 part 2.
- Tools Used: C++, Python, Excel