

Jack Beda

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SUMMARY

I am a MPhys Mathematical Physics student at the University of Edinburgh (92% average) and a graduate of the International Baccalaureate (IB) program (43/45 points). I have completed four physics summer research projects, in both experimental and theoretical research. Additionally, I have worked very successfully planting trees in Northern Ontario. Finally, I studied Norwegian online over the pandemic, achieving C1 proficiency. I have now been learning Chinese for 4 years.

Key skills: Grit, communication, engagement, organization, Python, Mathematica.

EDUCATION

2021 – Present	University of Edinburgh (MPhys Mathematical Physics) <ul style="list-style-type: none">• 92% average.• Top grade of all first-year physics students (Brodie Prize), and top grade of third-year Mathematical Physics students.• Three years of volunteer math tutoring as a director of the Math Buddies program.• Coauthored the second chapter of the textbook “Signatures Methods in Finance: An Introduction with Computational Applications”.
2022 – Present	Confucius Institute for Scotland (Evening Chinese Classes) <ul style="list-style-type: none">• Taken 11 semester-long courses (Beginner 1-3, Elementary 1-3, Intermediate 1-3, Upper Intermediate 1, Conversational Chinese) in Mandarin Chinese achieving a conversational speaking ability.
2020 – 2021	University of North Dakota (Certificate in Norwegian) <ul style="list-style-type: none">• Learned Norwegian from scratch to C1 certified over the pandemic.• Completion of 5 semester-long Norwegian classes: GPA: 4.0 achieving a certificate in Norwegian.• Achieved grade of A in the university of Oslo’s level III Norwegian class, qualifying for formal education in Norway.
2017 – 2021	IB Diploma and Honours High School Diploma at Kenner CVI <ul style="list-style-type: none">• Received 43/45 points (top 7% worldwide) on the IB diploma.• Received honours high school diploma with a final year average of 97%.

SUMMER RESEARCH EXPERIENCE

- 2025 **Internship: University of Washington, United States**
- Funded research program working in the trapped-ion quantum computing lab developing code for numerically simulating 2D ion traps.
 - Significant experience presenting physics research, working in a research group, and writing clear, useable, high quality code.
- 2024 **Internship: University of Edinburgh, Scotland**
- Authored the second chapter of the Springer textbook “Signature Methods in Finance”.
 - Honed my skills in complex analysis, computer science, abstract algebra, and developed extensive experience programming in Mathematica.
- 2023 **Internship: University of Tromsø, Norway**
- Designed, programmed, tested, and soldered a circuit board involving a Raspberry Pi Pico, digital to analogue converter, and numerous other components.
 - Wrote and debugged numerous programs in C and Python. Gained extensive experience with oscilloscopes and programming.
- 2020 **Research Assistant: Trent University, Canada**
- Used a spectrometer to analyze the birefringence of packing tape.
 - Wrote the article [Beautiful Birefringence](#) published by jIAPS, which presents the phenomenon under study to a lay audience.
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OUTDOORING EXPERIENCE

- Present **Extensive Mountaineering and Backcountry Experience**
- Organized food, equipment, and route-planning for numerous backcountry canoe and mountaineering trips. I have singlehandedly run three week-long backcountry canoe trips in Algonquin park, Canada. This demonstrates my excellent organizational, communication, and planning abilities.
 - Extensive experience winter mountaineering, roped climbing, skiing, boating, and night navigating. My mountaineering endeavours have taken me to the top of 90 of Scotland’s 282 Munros (mountains over 3000ft).
 - Completion of the 740 km [Pictish Trail](#) and 130 km [Skye Trail](#) .
 - Full Canadian driver’s licence. BASP wilderness first-aid certification (2023) following a two-day hands-on course. Canadian boating license (PCOC).
- 2021 **Tree Planter: Season with HRI in Northern Ontario**
- Two months living in a tent in freezing, rainy, and buggy weather without cell service, demonstrating my ability to do uncomfortable and challenging work for long periods of time.
 - Largest day planted 4200 trees. Planted 50 000 trees total. Achieving the highest new-planter daily total for the camp at least 5 times. Clearly showing I can set and manage personal goals and exceed targets.