

YANIV LAKHANI

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Dubai, UAE

Education

Safa Community School Dubai - Year 12 to Year 13

August 2023 - June 2025

A-Levels: Physics, Maths, Further Maths, Computer Science, EPQ (Predicted 5A*); Self-studied Business (A); Self-studying AP Calculus BC

Leadership: Sixth Form Senior Prefect, Head of Model UN Club; Head of Environment Club; Creating Wolfram chapter at Safa Community School

Dubai Gem Private School - Year 7 to Year 11

September 2018 - June 2023

IGCSEs: Maths, Additional Maths, English Language, History, Physics, Chemistry, Computer Science, Business, Accounting, French (Achieved A* in all); Self-studied AP English Language & Composition (Achieved 4); SAT, scored 1550 (790M, 760R)

Leadership: KS3 Prefect, IT Head for Model UN Conference, Organizing team for TEDxYouth in 2022 & 2023

Carnegie Mellon University in Qatar Pre-College Program (Intro to Algorithms)

July 2024 - August 2024

Prague Technical University Undergraduate Summer School (MultivarCalc I; Groups, Rings, and Fields)

July 2023 - August 2023

IIT Kanpur Online High School Summer Program (Applied Mathematics)

May 2023 - June 2023

HONORS/AWARDS (since 2022)

- **Cambridge Award “Highest in the UAE across 9 IGCSEs”** - August 2023: Self-studied Additional Mathematics and History in addition to several other interdisciplinary subjects.
- **Oxford AQA Award “Highest in the World in AS-Level Physics”** - August 2024: Achieved a full score of 100/100 for both AS-Level papers.
- **Scholarship Winner & Finalist: European Centre for Career Education Essay Writing Competition** - February 2023: Top 5 essays out of ~30,000 applicants. Selected as Educational Youth Ambassador for Middle East.
- **Won 1st Place at the Experience CMU Qatar’s Computer Science “Minecraft” Team Competition** - December 2024: Using sorting and combinatorics algorithms, my team and I were made to decipher codes and puzzles for 6 hours straight (so much fun) that carried onto subsequent next rounds.
- **Qualified Academically for the British Math Olympiad 2023**; Received Gold in UKMT Junior (2016-2019); scored 106/125 in 2022 and 107/125 in 2023 in the Senior UKMT mathematics challenge and 119/125 in the Intermediate UKMT mathematics challenge (top 600 among 300,000 participants).
- **Handpicked by the UN Delegate of Kenya** - December 2023: Spoke alongside her at the COP28 Summit in Dubai; presented proposed plan for additional energy sources; received an acknowledgement of gratitude during the Official Blue Zone Closing Ceremony.
- **Qualified for ChallengeMe Middle East Math Competition Finals (taking place February 2025)** - October 2024; Top 5% of participants.
- **Achieved merit certificate in the Indian Mathematics Olympiad qualifier (top 400)**
- **Secured spots in The India Book of Records for “Most countries identified by their outline in 60 seconds” (71) and “Fastest time to identify all 193 countries by their outlines” (3 minutes and 16 seconds)** - Jan 2022
- **Represented Safa Community School at the Dubai Math Super League** - December 2024: 6th rank in the individual category, 5th rank in the school category (among 40+ teams & 300+ top students from the UAE)
- **Won “Best Performance for A-Level Computer Science and Further Mathematics” from Safa Community School** - May 2024
- **Won 1st Place for the University of Wollongong Dubai’s UAE Entrepreneurship Challenge** - November 2023; 40+ teams competing from schools throughout the UAE
- **Won 1st Place Team for the World Scholar’s Cup Debate Regional Rounds** - January 2023: 25+ teams and 100+ students competing from across the UAE and Oman; debated on various topics ranging from public policy to video games
- **Ranked 4th Globally among ~1000 shortlisted competitors for the Mental Math World Cup Competition** - April 2023: Competition done online
- **9x Best Delegate, 6x Honorable Mention, 2x Best Position Paper, 4x Best Chair** out of the ~35 Model UN conferences I’ve attended as a delegate/chair/admin.

EXPERIENCE

- **Internship at DAMAC Properties/LOAMS Dubai www.damacliving.com**
 - Four weeks in Marketing and 3 months in Operations, where I applied analytical thinking and technical skills. Solved a critical software integration issue by identifying a misconfigured API and using Python libraries (NumPy + Matplotlib) to analyze & present campaign performance data, enabling the team to meet a key deadline.
 - Contributed to enhancing DAMAC Properties' website by analyzing user engagement metrics and implementing updates to improve its layout and functionality. Worked on the frontend using JavaScript, HTML, and CSS to optimize user experience, resulting in increased online lead conversions and better site performance. www.damacliving.com
 - **Founder of SCSTutors**
 - Developed and deployed SCSTutors.com, a tutoring platform for my school, to connect students with peer mentors. Built the frontend using JavaScript, HTML, and CSS, ensuring a user-friendly interface, and collaborated with peers to manage content and scheduling features. The platform streamlined tutoring sessions and significantly improved academic support within the school community.
 - **Internship at Parabole.ai Bangalore, India www.parabole.ai**
 - Implemented Ontology Data Pruning algorithms, developed analytical tools using AI, ML and NLP.
 - Worked with senior software engineers and developed solutions for financial, manufacturing and banking industry. The solutions enabled business houses to train AI models without writing any code.
 - **Project Intern at Vithran, Dubai www.vithran.com**
 - Interned for six months at Vithran Dubai, an audiovisual startup, where I applied mathematical principles to optimize sound transmission systems. Analyzed acoustic patterns & signal processing data (Fourier Transform application) to enhance audio clarity in noisy environments; Collaborated to design & implement solutions, combining technical expertise with creativity to meet client needs effectively.
 - Spearheaded Weltan, a digital kiosk system designed to enable seamless communication between individuals in different locations. Integrated real-time video conferencing, interactive touch displays, and location-based services to enhance connectivity and user experience. Leveraged advanced web technologies, including JavaScript and WebRTC, to ensure low-latency communication and smooth functionality, making Weltan a cutting-edge solution for remote collaboration.
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PROJECTS/RESEARCH

- **Extended Project Qualification on Applied Mathematics (Group Theory) in Music Theory**
 - Utilized abstract group theory and advanced mathematical algorithms to categorize and structure musical notes. Employed LaTeX to document complex mathematical models and equations, creating a rigorous framework for analyzing harmony and composition. The project combined algebraic structures with music theory to offer new insights into musical patterns and transformations.
- **A-Level Computer Science NEA Project on Applied Mathematics & Statistics**
 - Created a statistical simulator that models probabilistic distributions such as Poisson, Binomial, and Normal using their respective mathematical formulas. The simulator allows user input for customized scenarios, making complex statistical concepts more accessible. Widely used by younger students at my school to better understand probability and statistical analysis for their AS-Level Further Maths workload, enhancing their learning experience and supporting exam preparation.
- **E-Book on Group Theory Author and Illustrator (In Progress)**
 - 100-page book designed for high-schoolers featuring applications in microeconomics, cryptography, and music. The project combines my math expertise with graphic design and editing skills to create an accessible learning resource.

- **Arduino IoT Project on Automated Gardening**
 - Developed algorithms in Python to calculate optimal watering times and amounts based on environmental data such as soil moisture, temperature, and humidity. Integrated robotics to control water delivery, using C++ for microcontroller programming to ensure precise irrigation. The project combined automation, data analysis, and robotics to enhance plant care efficiency and sustainability.
- **Independent Research on an Undiscovered Approximation**
 - Conducted research on the approximation between pi and Euler's number, employing differentiation to approximate both constants with increasing accuracy. Analyzed their relationships through calculus-based methods & real analysis, providing new insights into the mathematical properties of these fundamental constants and their applications in real-world problem solving; submitted to ACTA MATHEMATICA Journal.
- **Discord Bot <https://top.gg/bot/807173852555247636>**
 - Developed and launched "RiddleBot" using a Python API; delivers daily riddles and interactive puzzles. Successfully grew the bot to over 150 servers, reaching more than 2 million users, and earned official verification by Discord for its popularity and engagement.

ADDITIONAL COURSES (APPLIED MATH)

- **Coursera Johns Hopkins Mathematics of Democracy** - Blown away by the applications of statistics and stochastic processes to voter systems, apportionment, and gerrymandering.
- **Coursera UPenn Business Specialization** - Studied financial accounting conventions & online marketing, where I gained practical skills in financial analysis, budgeting, and creating effective marketing strategies.
- **Coursera Rice Computing Fundamentals** - Covered core concepts in basic Python, algorithms, and data structures, with an emphasis on mathematical problem-solving and computational efficiency.
- **Coursera Stanford Algorithms Specialization** - Covered discrete math, graph theory, sorting, greedy algorithms, divide and conquer, and NP problems; provided a solid math foundation for designing efficient algorithms and solving complex computational challenges.
- **EdX Harvard CS50x Course** - Intro to Basic Python
- **Coursera Imperial College London Math for Machine Learning** - Introduced to linear algebra and multivariate calculus; explored their applications in projects, research, and other courses.

VOLUNTEERING

Engaged actively with Emirate Environmental Group to raise awareness about Dubai's increasing heat by selling small plants. Raised \$3,000 in one day, highlighting the importance of sustainable practices and encouraging the community to take action in reducing the urban heat island effect.

Carried out Gurdwara Seva (religious), assisting with carrying rice bags, cooking, and serving Indian meals to over 300 people every Sunday, ensuring a smooth and efficient service for the community; assisted team to achieve Guinness World Record "Most nationalities having a continental breakfast" (101).

Volunteered with Emirates Red Crescent during the February 2023 Turkey-Syria earthquakes, helping organize donations and support relief efforts; 200+ boxes packed per day

Guided students in SAT, APs, and IGCSE Math as a part of the Peer-Mentoring Initiative at Safa Community School, providing academic support & study strategies to help improve their performance & build confidence.

Moderated the MathMemes Discord Server.

Tutored SAT students at Schoolhouse <https://schoolhouse.world/u/488127>

Technical Skills: Python, Java, C++, Mathematica, SQL, HTML, CSS, CAD, LaTeX, Android Studio, AI and ML libraries – Matplotlib, NumPy, SciPy etc