

IKSHVAKU GARG

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EDUCATION

Pathways School Noida	2012 - Present
Grade 9-10 MYP (9th Grade: 51/56) (10th Grade: 51/56)	2020 - 2022
Grade 11-12 IBDP (Predicted Grade: 44/45)	2022 - 2024
Coursework: HL Math Analysis & Approaches, HL Physics, HL Computer science, SL Economics, SL Hindi, SL English	

STANDARDIZED TESTS

SAT: 1510 (EVBRW: 710 Math: 800) [Will give next attempt on 7th October 2023]

TOEFL iBT: 108/120 (Reading: 28 | Listening: 27 | Speaking: 25 | Writing: 28)

AP: Chemistry (Will appear in May, 2024)

AWARDS & HONORS

- School topper & honor roll recipient in school with multiple subject awards for performance in the MYP and DP program
- Received special awards in school: The outstanding sports person award & The best leader award [DP]
- IBDP Subject Award in Hindi SL, Computer Science HL, Mathematics Analysis and Approaches HL, Physics HL
- Honour roll 2021-2022 For outstanding academic achievement [MYP]
- MYP Subject award: Proficiency in Chemistry, Geography; Merit in Extended Math, Physics, Design
- Kumon Advanced Student Honour Roll 2020, 2021, 2022
- Competed and won in four Hackathon 2021 & 2022 & 2023 x2
- Aditya Birla Math Infinity Olympiad 2022 & 2023 Finalist (Top 50)
- International Award for Young People (IAYP) Bronze in 2021
- Wolves of wall street Investment competition (Learn with leaders) Top 10
- International Finance Olympiad 2022 and 2023, qualified for national round with A+ both times

ENGINEERING EXPERIENCES & RESEARCH

INNOVATION

- Study of Smart Grids in Large Solar Plants, designed, optimized, coded, and prototyped a microgrid to solve this problem.

PUBLISHED RESEARCH

- Solar Irradiance Prediction Using Optimized Nonlinear Autoregressive Exogenous (NARX)-Coupled Deep Bidirectional Long Short-Term Memory Network Model
- Artificial Intelligence in Sustainable Energy Industry: Status Quo, Challenges, and Opportunities

INTERSHIPS

- Precision Machine Manufactures- (3 weeks) Learnt PLC & Applied it in the internship to devise efficiency in manufacturing machine parts.
- Jackson Group- (4 weeks) Investigated existing machine learning models used to improve solar irradiation prediction, with the goal of improving the efficiency of solar plants thereby reducing plant operational costs.
- DropTheQ- (3 weeks) Contributed in the initial study and understanding of the Restaurant operations for India's leading Ethnic Quick Service Restaurant HALDIRAM'S. Found bottlenecks, suggested new operation flow to prevent those bottlenecks, communicated my findings to the software development team. (Helped improve company efficiency by 15%)

LEARNING & OBSERVATIONS

- Ravi Solar- A two week internship where I Learned how Solar Engineering, Procurement, and Construction (EPC) takes place. Analyzing plant data I observed that a large part of energy goes to waste because of human inefficiencies and cluttered energy management. Thus started work on a prototype of a smart grid to address this gray area.

ONLINE COURSES

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|--|-----------------------|
| • Learn Python Programming Masterclass By Tim Buchalka (74 hours) | June 2020 - July 2021 |
| • Modern JavaScript From The Beginning By Brad Traversy (36.5 hours) | Dec 2020 - May 2021 |
| • Algorithmic Trading, Machine Learning & AWS By Alex Hagmann (43 hours) | Aug 2021 - May 2022 |

INDEPENDENT INVESTIGATION

- Physics IA: Physics behind the Smart Grid; Looked at renewable energy as an energy source, focusing on inverters
- Math IA: Cost side of the Smart Grid; its impacts and implications for consumers and organizations.

ENERGY & TECHNOLOGY OUTREACH

- Energy Literacy Program: Is an initiative I started due to the widespread illiteracy regarding sustainable energy use. I developed 6 teaching modules and quizzes to test the learnings and upon completion participants received certificates. I advertised its reach through my podcast.
- Under the mentorship of Mr Ajeet Mishra worked on Smart Grid integration for energy efficiency improvement and energy wastage reduction. Used Python to code the logic parameters for the Smart Grid and integrated it with the hardware through RasperryPie.

JEET KUNE DO & OUTREACH (MARTIAL ARTS)

TRAINING & PERFORMANCE

October 2013 - Present

- Black belt holder in Jeet Kune Do have been practicing since a decade
- Two Time National Gold medalist
- Competed in 5 district, 8 state, and 2 national-level competitions
- Bagged over 16 medals, including 1 national gold and 1 national silver.
- Sensei of 15 Self defense camps aimed at empowering women and girls

OUTREACH

Founder of Jeet Kune Do Self Defence Camps

Dec 2022 - Aug 2023

- Founder and Sensei of the Jeet Kune Do (JKD) Self Defense camps
- Women Self Defence Camps PAN India
- Conducted 15 camps for 1k+ women;
- Developed modules for self learning using JKD
- Empowered over 1000 women to take charge and develop the capability for self protection

LEADERSHIP

Waterhouse Captain, Student Council

November 2022 - October 2023

- Elected by 600+ students; Led 200+ members
- Lead Waterhouse to victory on sports day, a feat that eluded all 200 members for a decade.
- Organized school-wide functions (Spirit week, Sports week, Cross country, Summer fest, Concerts, Bake sales, tech week, stationary recycling initiatives, etc)
- Ensured cohesion within student body
- Ensured liaison between student body and faculty

Founder, The Ikshvaku Garg Talk Show (Podcast)

June 2022 - December 2022

- Host
- Podcast accessible on Spotify
- Monthly podcast to spread awareness on social and political issues through novels; 1000+ listeners across 8 countries

Founder, The OnePutt Project (Automated Golf Putting Matt)

June 2022 - Dec 2022

- Founder and Engineer
- OnePutt: Democratising Golf
- Metatronic Golf Putting product
- Designed to be cost-effective, eco-friendly using Arduino and Sensors
- Donated to 2 sports NGOs, 2 old age homes, and 1 golf course; 524 different putting combinations

President, The Investment Society (School Club)

August 2022 - May 2024

- Vice President (11th), President (12th)
- 30 members; taught members stock trading
- Organized monthly guest lectures with industry experts and assemblies to give the members a professional insight in the industry

Expert, PSN HackClub (School Club)

January 2020 - May 2024

- 60 members; A community of computer enthusiasts
- Practiced collaborative coding and created programs that promote inclusivity and hold the potential to create an impact.
- Found joy in helping the other members of our club; thereby received the status of "Expert" in the club
- Organized Hackathons

ALGORITHMIC TRADING & FINANCE

INTERSHIPS

Winter Intern, Ram Commodities, Ghaziabad, India (<https://www.motilaloswalmf.com/>)

Dec 2022

- Ram Commodities is a Subbroker for NSE(National Stock Exchange) under Motilal Oswal managing \$60 million for HNI's in Ghaziabad
- Learnt about the derivatives market and algorithmic trading
- Analyzed stocks to give recommendations for swing trading

PUBLISHED RESEARCH

Independent Researcher, Algorithmic Trading, IJSSER (<https://ijsser.org/more2023.php?id=167>)

Jan 2023 -Aug 2023

- Wrote and published a research paper on algorithmic trading
- Paper titled "ALGORITHMIC TRADING: A COMPREHENSIVE REVIEW OF TECHNOLOGICAL ADVANCEMENTS AND MARKET IMPLICATIONS"
- Analyzed impact of algorithmic trading on stock market
- Evaluated market factors such as volatility, efficiency, liquidity, market structure, etc
- Compared market and law regulations before and after the advent of HFTs

ONLINE COURSES

Coding

- Modern HTML & CSS From The Beginning By Brad Traversy (21 hours)

Aug 2020 - Dec 2020

• Build Android Apps with App Inventor 2 By Stone River eLearning (17 hours)	Jan 2021 - March 2021
• 20 Web Projects With Vanilla JavaScript By Brad Traversy (16 hours)	April 2021 - May 2021
• Python Mega Course: Learn Python, Build 20 Apps By Ardit Sulce (51.5 hours)	July 2021 - Dec 2021
<u>Algorithmic Trading & Programming</u>	
• Learn Ethical Hacking From Scratch By Zaid Sabih (16 hours)	Dec 2022 - March 2023
• Algorithmic Trading: Backtest & Automate in Python By Mohsen Hassan (10 hours)	Feb 2023 - June 2023
• Forex Algorithmic Trading Course: Code a Forex Robot! By Mohsen Hassan (11.5 hours)	June 2023 - Aug 2023
<u>Finance</u>	
• The Complete Foundation Stock Trading course By Mohsen Hassan (9.5 hours)	August 2020
• Advanced Stock Trading Course + Strategies By Mohsen Hassan (9.5 hours)	September 2020
• Day Trading and Swing Trading Strategies for Stocks By Mohsen Hassan (3.5 hours)	October 2020
• Live Stock Trading Course: Beginner to Pro By Mohsen Hassan (7.5 hours)	November 2020
• The Complete Cryptocurrency Investment Course By Mohsen Hassan (12.5 hours)	December 2020
• The Advanced Cryptocurrency Trading Course - With Strategies By Mohsen Hassan (6 hours)	Jan 2021
• Complete Investing Course (Stocks, ETFs, Index/Mutual Funds) By Mohsen Hassan (11.5 hours)	Feb 2021
• The Complete Foundation FOREX Trading Course By Mohsen Hassan (8.5 hours)	March 2021

COMMUNITY OUTREACH

- Spearheaded a Covid Vaccination Camp during peak covid wave that provided free vaccination to 500 people around my community in 2021
- Toy Drive to provide toys to low income children.
- Tree Plantation Drive that engaged 50 people and planted over 1000 trees.
- Walkathon for cancer patients in 2017, 2018.
- Bake sale to provide fans to low income workers in Delhi heat wave 2018
- Maggie sale and a 6 month long awareness project to raise awareness on adoption as well as collecting funds for an animal NGO in Chattarpur, Delhi 2016
- Carbon Footprint Offset and emission awareness campaign
- Seedball Plantation and awareness campaign (An substitute for tree plantation for busy urban city residents)

SPORTS

Golf	May 2020 - Present
• City-level golfer with handicap of 14	
• Competed in the Shubhankar Sharma Junior Invitational City qualifier-3.	
• Designed a metatronic Golf Putting product that aims to democratize golf by bringing it to a wider audience	
Horse Riding	October 2016 - March 2018
• District Level Horse Rider	
Track & Field	January 2017 - Present
• Participated & Won in our school's annual Track & Field events (Sports day)	
• High jump	
• Long jump	
• 100, 200, 400, & 800 meters	
GYM	June 2021 - Present
• Consistent Gyming: Progress has been both Mental and Physical.	

INTERESTS

DEBATE	October 2021 - Present
• Delegate at the Model United Nations (MUN) conference in 2021 October	
• World Scholar's Cup regional round in November 2022; got 13 medals and a gold qualification for the global round in June 2023.	

SKILLS

- Proficient in English, Hindi
- Comfortable utilizing research tools such as Google Scholar and Noodle Tools
- Public speaking
- I have worked on 8 projects as a front-end developer since 2020.
- Proficiency in front and back end Web Development using languages HTML, CSS, Javascript, SCSS, SASS
- Proficiency in Python for Object Oriented Programming & Algorithmic Trading
- Proficiency in Java for Desktop Applications
- Have created algorithmic trading bots
- Working with IoT devices for Smart Grid integration solutions to reduce energy wastage
- Avid Reader
- Ability to maintain composure and balance and perform high in environments of stress and pressure
- Integrity, Consistency, Hardworking, strong willed