

Advik Chaudhary

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EDUCATION

United World College of Southeast Asia (UWCSEA), Singapore, 2019–2023

IB Diploma 11th – 12th grade (predicted IB result: 44/45); IGCSE 9th – 10th grade (achieved A* in all nine subjects)

LEADERSHIP

Founder and Chief Executive Officer, Passion To Serve, a Non-Profit, 2020–Present

Built [organization](#) to tackle inequality of education (*Knowledge To Serve initiative*) and inequality of access to essential items (*Items To Serve initiative*). [Organization](#) supported by 90 volunteers, advisory council, and board of directors.

Served around 6,500 total beneficiaries.

Knowledge To Serve Initiative

- Conducted enrichment workshops for migrant workers and cancer patients for re-skilling or nurturing curiosity. Gained over 1,100 registrations for various courses including computer & technology, money & finance, and yoga & mindfulness.
- Collaborated with Singapore Ministry of Manpower's Assurance, Care, and Engagement (ACE) division (and chief) to organize [events](#) (footfall of 3,500 beneficiaries) to support migrant workers. Received Certificate of Appreciation from ACE for supporting migrant workers
- Collaborated with 8 local and international non-profits, including Movement for the Intellectually Disabled of Singapore and the Akshaya Patra Foundation to access communities and host events.
- In discussions with Coursera and Stanford Online to bring customized courses online at subsidized rates to migrant workers.

Items To Serve Initiative

- Developed [online platform](#) with PHP, HTML/CSS, and WooCommerce; used novel functionality to enable people to donate low-income households/migrant workers receive essential items such as clothes, furniture, and books.
- Collaborated with local organizations, such as *Willing Hearts*, to ship donated items to Philippines, Myanmar.
- Facilitated donation of around 5,900 items to about 2,500 beneficiaries.

Founder and Leader, High School Arduino Club, 2021–Present

- Lead group of around 15 students; teach programming and hardware using the *Arduino* microcontroller.
- Learnings used to build STEM-related projects—including a drone, an Iron Man helmet, and rainbow lighting.

Organizer and Leader, Fundraiser for Migrant Workers' Assistance Fund, 2020

- Raised \$2,670 from 25 donors for Migrant Workers' Assistance fund in Singapore.
- Campaigned online by documenting and raising awareness on Covid's spread in workers' residential quarters.

Volunteer and Innovator, Shan You, a Non-Profit in Singapore, 2019

- Ideated and developed automated software solution (with Python) as alternative to previously manual website data scraping process.
- 3 days of manual data work could now be completed in 90 minutes. *"It is a major breakthrough to help to speed up work"* – Shan You.

Organizer and Leader, Beach Clean-ups, 2021–2022

- Mobilized (through school campaigning) and led team of 6 students to partake in beach clean-ups at Singapore's East Coast Beach. Clean-ups were coordinated with the National Environmental Agency, providing tools.

AWARDS

NGO Leadership Award, CMO Asia, 2022

- Selected for [award](#) across Asia for “contributing value & making a change” with my non-profit, *Passion to To Serve*.
 - Jury included ex-president of ‘The Economic Times’ and other social enterprise leaders.
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Gold Award Recipient, National Youth Achievement Award (NYAA), 2022

- Selected as one of around 30 awardees in Singapore, between 16 and 30 years of age.
 - Awarded for work done with my non-profit, *Passion To Serve*, among other activities.
 - Advisory board for NYAA chaired by Mr Heng Swee Keat, Deputy Prime Minister of Singapore
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CREST Gold Award, British Science Association’s CREST Competition, 2021

- Awarded for developing laser-tripwire-based device aimed to deter snacking.
 - Product’s housing was 3D-printed and laser-cut while circuits were self-engineered using manufactured parts.
 - Submitted [report](#) documenting brainstorming and process.
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ACADEMIC ACTIVITIES

Researcher, Electron Paramagnetic Resonance (EPR) spectroscopy, 2022

- Worked with Prof. Doros Petasis, Allegheny College, PhD Carnegie Mellon University
 - Analyzed EPR spectra of DPPH and MnCl_2 to deduce its electron structure, documented in research [paper](#) (under review at Journal of Student Research).
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Researcher, Quantum Computing, 2022—Present

- Exploring quantum mechanics and applications to computing under guidance of Professor Ching Hua, National University of Singapore (NUS), and through discussion with his supervised undergraduates.
 - Built algorithms through Qiskit software on IBM’s quantum computer and studied applications to portfolio optimization.
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Design Team Member, Students for Exploration and Development of Space, Nanyang Technological University (NTU), 2019

- Designed and built high-altitude weather balloon to collect and analyze atmospheric data (worked in ‘Structures’ team).
 - Worked alongside 20 undergraduates at NTU, under guidance of Prof. Chandran.
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Student, Harvard Summer School, 2021

- Completed 7-week credit-based college course, ‘Introduction to Quantitative Methods’.
 - Learnt about application of statistics to healthcare and inequalities in the US.
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Student, Harvard CS50, 2021

- Completed Harvard University’s 11-week CS50 course about thinking algorithmically and programming in various languages.
 - For final project, created a stock analyzer/watcher with the Yahoo Finance API and Flask
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Member, School SEAMC (South East Asian Mathematics Competition) Club, 2021

- Chosen (as one of 15) for school’s selective SEAMC club to learn advanced mathematical concepts.
 - Represented school in Asian Schools Math Olympiad and American Math Olympiad.
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Student, Quantum Mechanics Workshop by Prof. Hariom, National University of Singapore (NUS), 2020

- Completed course covering theory of quantum mechanics, its applications, and experiments demonstrating nature of superposition and entanglement.
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Participant, Mission Discovery Program, International Space School Education Training, 2019

- Learnt from NASA astronauts and scientists about research in microgravity environment.
- Ideated space experiment about decomposing space waste using microbes.

INTERNSHIPS

Intern, Millennium Capital Management, Hedge Fund, 2021–2022

- Created stock analysis report on Tesla using discounted cash flow model with trade recommendation (gave “underweight” rating).
 - Worked with Senior Portfolio Manager to analyze findings and develop [report](#).
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Intern, BlueCrest Capital Management, Hedge Fund, 2021

- Developed software (locally-hosted, used JavaScript/HTML/CSS for GUI and Python for backend) that analyzes correlations between currencies and derives implied correlations from *FX Options Vol* market.
 - Software utilized range of statistics, such as Z-score, along with data from Bloomberg, to identify trading [opportunities](#).
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Intern, Tinkertanker, Tech Education Startup, 2022–Present

- Developing and reviewing curriculum for teaching technology to youth, including programming in Swift.
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OTHER INTERESTS

Miscellaneous Self-Directed Technology Projects, 2019–2022

- Used ML [algorithms](#) and feature selection techniques (e.g. random forest, F-value-based feature selection) to analyze financial markets. Achieved 60% accuracy (based on backtesting).
 - Led team of students to [ideate](#) on novel beach cleaning robot, powered by machine learning (using Microsoft’s computer vision API). Developed CAD renderings and researched algorithms for object recognition.
 - Developed web-based Mandelbrot set (a fractal) explorer using JavaScript/PHP/CSS.
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Art, 2019, 2022

- Selected to lead School Art Society, comprising 15 students (2022). Organized art sessions (watercolor and drawing).
 - Took the *Nanyang Academy of Fine Arts*, junior course (2019). Experimented with various mediums—oil, watercolor, charcoal.
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Community Service, 2019–2021

- Provided friendship and care to elderly in Singapore who needed support during COVID lockdowns. Organized exercise and yoga sessions (virtually) with Lion Befrienders.
 - Helped organize virtual arts and games sessions for underprivileged children with SGM’s Little Kidz, partnered with YMCA student care center.
 - Helped organize fundraiser at school to help provide medical care, housing, food, and education for street children in Jaipur, India. Merchandise and snacks sold to raise \$2,000.
 - Conducted arts and crafts sessions and taught academic subjects through interactive games to pediatric cancer patients.
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Piano, 2015–2019

- Completed Yamaha Music School’s grade 8 (Teacher’s Level). Undertook several in-person performances.
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Tennis, 2019, 2022

- Member of school’s under 19 team. Represented my school in inter-school tournaments.