VYOM MEHTA
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RESUME

EDUCATION

Canadian International School (CIS), Bangalore, India — 2017 to Present
- *International Baccalaureate Diploma Program (IBDP)*: Grade 12 — 2019

Henry M. Gunn High School, Palo Alto, United States — 2014-2016
- *Attended 9th Grade and 10th Grades*

STANDARDIZED TESTS

SAT Superscored Test: 1510; Mathematics: 790/800, Reading & Writing: 720/800 — 2017-2018

AWARDS AND HONORS

- **Awarded Head of School's Accolade for Academic Excellence** — 2018
- **Awarded Honor Roll Accolade for Academic Excellence** — 2018
- **Awarded Highest PSAT Score in my Graduating Class** — 2017
- **Stood 1st in French B SL in Grade 11** — 2017
- **Gold Medalist in the National French Contest (Top 5 percentile in the United States French Students)** — 2016
- **Silver Medalist in the National French Contest (Top 10 percentile in the United States French Students)** — 2015
- **Stood 3rd at Gunn Hacks amongst approximately 100+ Competitors** — 2015

LEADERSHIP INITIATIVE

F1 In Schools — 2018

F1 in Schools is the only global multi-disciplinary challenge in which teams of students aged 9 to 19 deploy CAD/CAM software to collaborate, design, analyze, manufacture, test, and then race miniature compressed air powered balsa wood F1 cars. The challenge inspires students to use IT to learn about physics, aerodynamics, design, manufacture, branding, graphics, sponsorship, marketing, leadership/teamwork, media skills and financial strategy, and apply them in a practical, imaginative, competitive way.
- Sole-Founder of the fully-accredited F1 in Schools Chapter at Canadian International School.
- Self-taught the Physics of Automobiles (Aerodynamics, Efficiency, etc.) and then taught it to my club members.
- Self-taught CAD/CAM through Autodesk Fusion 360 and then taught it my club members.
- Learnt CNC machining and started making functioning miniature compressed air-powered balsa wood cars.
- Taking part in the 2018 F1 in Schools Competition.

ENGINEERING-DESIGN EXPERIENCE

LISI Aerospace, Saint-Ouen-l'Aumône, France — 2018

LISI Aerospace is a worldwide company in the aerospace market worth more than $1.3 billion. It is a manufacturing specialist for fasteners (#3 in the world) and structural components used for the airframe as well as the engine of the aircraft.
The core business of the company is metal deformation, complemented by heat-treatment, machining, coating and assembly.
- Learnt the processes of Industrial Forging, Sheet Metal Forming, Machining (Rolling, Deburring, Broaching, Welding, Crimping, Injection Molding, Operating an Electrical Discharge Machine), Heat Treating, Finishing (Plating, Coating, Lubricating).
- Understood all the processes behind the testing procedure such as Metallography, CMM, Shear Testing, Fatigue Testing, and other simulator software.
- Gained a new understanding in the rising field of Additive Manufacturing (3D Printing) and I learnt the whole process on how every aspect of a product is made from start to finish. I looked at how a Fortune 1000 company operates.
- Improved upon my French.
- Wrote a full-length research paper on LISI's Aster® Recess Fastening System's that the company uses as an introduction tool for their new employees.

Skillenza, Bangalore, India — 2016-2017

Skillenza is a leading VC-funded innovation firm that aims to disrupt the traditional hiring experience by helping companies recruit employees through Cloud-Based SaaS Platforms which conduct Hackathons and automated Skill Assessments.
- Learnt the whole Adobe Creative Suite fluently and used it specifically to meet the clients' needs.
- Designed advertisements and banners for Skillenza's social media presence.
- Collaborated with a whole team of marketing and design employees, had to report to a supervisor and had to meet deadlines.
- Aided in the UI/UX development of their website.

SCIENCE AND RESEARCH EXPERIENCE

Physics Exploration "How does the Dissipation of a Battery vary with Temperature?" — 2018
- I discovered the relation between the dissipation of voltage and current in a battery by changing its temperature. I then attempted to theorize a means to maximize how much a battery can be used based upon the conditions it is placed in.
- I learnt the process of creating a hot oil bath but without damaging the structural integrity of the battery. I also learnt how to use ammeters, voltmeters and developed my own circuits.

Online Physics Courses — 2017-2019
- École Polytechnique - *"Photovoltaic Solar Energy"*

This course was an introduction to the photovoltaic applications in the general mix energetic context dominated by climate warming mitigation. I learnt about the various uses of solar energy and the principles of direct solar photon conversion into electricity. I then explored these principles in crystalline silicon cells. I analyzed the perspectives of these various technologies in terms of R&D investments. I understood the various sources of the conversion efficiency limitations and looked at solar photovoltaic systems, from cells to grids, with a particular emphasis on the challenges of grid-integration of photovoltaic systems and the development of storage technologies. I analyzed the environmental and social impacts of photovoltaic to the competing energy sources and how one day it can be the new norm.

- École Polytechnique - *"Vers l'infiniment petit"*
This course, taught in French, was run by Labex P2IO Physicists and Physics Professors from the École Polytechnique. I studied the secrets of matter on both an infinitely small and infinitely large level, looking at all the latest advances in research in nuclear physics and particle physics. I learnt the principles of accelerators and detectors which helped me in studying the matter at these extreme magnitudes, even using the discovery of the Higgs boson in 2012 at the CERN particle collider as a learning example.

- École Polytechnique - *"Les deux infinis et nous"*
This course, taught in French, was run by Labex P2IO Physicists and Physics Professors from École Polytechnique. I studied matter on both an infinitely small and infinitely large level especially in the aspects closest to our daily lives. I discovered how the tools developed in the collaborative environment of physics at extreme magnitudes have found unexpected applications, how nuclear physics has profoundly changed the fields of energy and health, and how the properties of certain particles now help other disciplines to probe the subject in a totally different way.

MATHEMATICS PURSUITS

Mathematics Exploration "How can Nash Series aid the prediction of Human Psychological Choices?" 2018
- I discovered the relation between mathematics (especially game theory) and how it can be used to predict or ease the choices a person would need to make. I then attempted to relate my discovery to something from our daily lives by theorizing a means help a person find a solution to the seemingly-impossible task of picking a restaurant on a night out.
- I learnt the game theory mathematics used in economics that helps economists predict human behavior and tried to extrapolate that to simpler human tendencies. I learnt a variety of topics in combinatorics, probability and statistics that I normally would not have been able to cover in my school syllabus

Online Mathematics Courses 2017-2018
Imperial College London - *"Mathematics for Machine Learning"*
In this course I looked at what linear algebra is and how it relates to vectors and matrices and how to work with them, including eigenvalues and eigenvectors, and how to use these to solve problems. I also studied datasets including extracting eigenvectors to look at how the PageRank algorithm works. Since I was looking at data-driven applications, I implemented some of these ideas in code, writing code blocks and Jupyter notebooks in Python, and applied these concepts to machine learning.

ATHLETIC LEADERSHIP

Captain Canadian International School Swim Team 2018-2019
Captain Canadian International School Frisbee Team 2018-2019

PHOTOGRAPHY ACHIEVEMENTS

Published the *"The Fracture in Structure"* Book 2018
I published a book on all the photographs I had taken across Bangalore which served as an exploration to highlight the massive divide in underused versus overused resources in my country. The focus of this project was looking at Engineered Structures such as Cell Towers and Billboards which served as examples.

Exhibition of my Photographs from my *"The Fracture in Structure"* Series 2018
I had a Solo-Show of the photographs from my *"The Fracture in Structure"* Series exhibited at the prestigious Sublime Galleria in Bangalore during the month of October.

EXTRACURRICULAR ACTIVITIES

Swimming
- Competed in Junior Varsity Swim Team at Henry M. Gunn High School in the 9th and 10th grades. 2014-2016
- Competed in Junior Varsity Water Polo Team at Henry M. Gunn High School in the 9th and 10th grades. 2014-2016
- Competed and served as Captain of Varsity Swim Team at Canadian International School in the 12th grades. 2018-2019
- Swim almost every day to maintain my personal fitness. 2014 to Present

Ultimate Frisbee 2017-2019
- Competed in the Ultimate Frisbee Team at Canadian International School during my 11th and 12th grades.
- Served as the Captain of the Ultimate Frisbee Team at Canadian International School during my 11th and 12th grades.
- Attended the Frisbee Club for all six trimesters.

COMMUNITY OUTREACH

Chaitanya Vidyalaya (School), Bangalore 2017-2019
I served as a teacher at Chaitanya Vidyalaya which is a school that aims to provide basic education to under-privileged children from the North-Bangalore Area.
- Worked as an English Teacher, helped conduct classroom sessions and offered individualized help to children from the 4th grade.
- Taught a group of students some new English vocabulary every week accompanied by testing that I had put together.
- Helped raise money for presents and awards for all the students I taught.

INTERESTS

Stock-Trading, Current Affairs, Trivia, Crosswords, App-Designing, Contemporary Art, Fashion, Jazz, Stamp Collecting, Board Games