

# ROHIL SINGH DHILLON

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## EDUCATION

**High School, JUNE 2019 - AUGUST 2020, Bangalore  
Karnataka, India**

**GEAR Innovative International School, Bangalore**

*Computer Science Section*

*Senior Secondary School Certificate, (AISSE) (Grade 12)*

Subjects: Physics, Chemistry, Mathematics, English, and

Computer Science, Scored 90.8%



**High School, JUNE 2017 - MAY 2018, Bangalore,  
Karnataka, India**

**GEAR Innovative International School, Bangalore**

*Computer Science Section*

*Secondary School Certificate (AISSE) (Grade 10)*

Subjects: English, French, Mathematics, Science,

Social Science Scored 86.4%



**Primary School, Saint Mary of the Assumption  
School**

67 Harvard Street, Brookline, MA 02445, USA



## SKILLS

- \* Excellent communication and language skills and strong command over English.
- \* Good organizational skill- headed basketball multiple teams to tournaments various levels
- \* Coding in C, C++ as part of my high school courses for 2 years.
- \* SQL as part of high school courses.

## RESEARCH EXPERIENCE (One Year)

- \* Artificial Intelligence, Brain Computer Interface and Human Health, Shiv Nadar University, India
- \* Precision NeuroOncology and NeuroVascular Disease modeling, Shiv Nadar university, India

## PUBLICATIONS SUBMITTED IN INTERNATIONAL PEER REVIEWED JOURNALS

- \* Ashish Sehrawat, Gehna Luthra, Rohil Singh Dhillon, Seema Sehrawat\* (2020). Exploring the significance of parallels and correlation between Astrophysical Black Hole and Brain function for understanding Artificial Intelligence (*Submitted to Brain Multiphysics*).
- \* Naveen Kumar, Uttara Nair, Rohil Singh Dhillon and Seema Sehrawat\* (2020). Non-Invasive and Virtual detection of Brain tumor using Artificial Intelligence: Applications in Artificial Intelligence, Nanotechnology and Precision Medicine (*Submitted to Frontiers in Artificial Intelligence*).

- \* Vishnu S Mishra, Masoom Raza, Gehna Luthra, Naveen Kumar, Uttara Nair, Rohil Singh Dhillon, Smruthi Jayasundar, Rama Jayasundar, Seema Sehrawat\*. Integrating Adenosine as a key target player for NeuroOncology: Recent updates on the clinical trials (Under Review in *Molecular and Cellular Biochemistry*)
- \* Uttara Nair, Naveen Kumar, Masoom Raza, Vishnu S Mishra, Rohil Singh Dhillon, Seema Sehrawat\*. Non-Invasive and Virtual detection of Brain Dysfunction using Artificial Intelligence and Brain Modeling: Clinical and Translational perspective and applications in Nanotechnology and Precision Medicine (*Submitted to Molecular and Cellular Biochemistry*)
- \* Prithvi Arunachalam, Thanya Sekhar, Himanjali Dimri, Naveen Kumar, Shruti Tyagi, Snigdha Sarthak, Tiyaasha Banerjee, Vishnu Shankar Mishra, Masoom Raza, Rohil Singh Dhillon, Seema Sehrawat\* Firing inherent Neuroplasticity and Vascular Mimicry key to recovery post Neurodegeneration caused by Neuro-Oncology Disease Therapy (*Submitted to Science Progress*)

### CO-CURRICULAR ACTIVITIES

Sports: Basketball

- \* Playing since 10 years at Boston and Delhi
- \* Selected in the top 40 players of the country by the NBA academy India.

### CERTIFICATIONS

- \* **CS50's Introduction To Computer Science, Certification Pursuing, 2020**

**HarvardX**

An introductory course from edx imparting knowledge on C, SQL, and python coding along with data structures and algorithms through lectures and course work.

<https://online-learning.harvard.edu/course/cs50-introduction-computer-science?delta=0>

- \* **CS50's Introduction to Artificial Intelligence with Python, Certification Pursuing, 2020**

**HarvardX**

This course explores the concepts and algorithms at the foundation of modern artificial intelligence, diving into the ideas that give rise to technologies like game-playing engines, handwriting recognition, and machine translation.

<https://online-learning.harvard.edu/course/introduction-artificial-intelligence-python?delta=1>

### PRESENTATIONS

- \* Poster presentations from grades 2-5 on ancient Egypt history, The Brain Connectome, The Iroquois native American tribe: their beliefs and achievements.
- \* Poster presentations from grades 6-8 at the annual science exhibition in my school on liquid dynamics, the carbon cycle and its change by Humans.
- \* CBSE Physics project: To set up a common base transistor circuit to study its input and output characteristics and calculate its current gain.
- \* CBSE Chemistry class 12 project  
Study of Effect of Potassium Bisulphite as Food Preservative Under Various Conditions
- \* CBSE Computer Science class 12 Project  
Commercial Software for inventory management and custom purchases.

## STATEMENT OF PURPOSE

Computers, since I was young, have intrigued me not for their importance in daily life or their multitude of applications but as to simply how they would function and perform the tasks they were being used in. Later as I learnt more about the wide expanse of computational applications, the field fascinated me even more. As I got older I kept learning more about computational applications from school as a major subject but also from various sources on the internet along with interactions with other people involved in different sectors of the computer science industry.

The sphere of knowledge that intrigues me most now is artificial intelligence and its subset machine learning. My long term goal is to understand how machine learning can be applied to the study of biomechanics and understanding injuries in sports. This application of the field interests me as I have played Basketball since I was in the first grade in Boston at an inter-school level till 9<sup>th</sup> grade in India when I was selected in the top 40 players of the country for the NBA Academy India. I would like to use the powerful tool of machine learning in artificial intelligence to prevent and treat injuries such as CTE (chronic traumatic encephalopathy) in athletes which can be caused by repetitive head traumas and other orthopedic conditions that could be prevented like MCL and ACL tears.

I have been studying computer science from the first grade onwards in the US from basics like Excel and PowerPoint to my high school years at Bangalore learning C++ and computer science algorithms such as linked lists, stacks, queues, various searches in arrays etc. I have also learnt SQL as part of my syllabus in high school. I have also learnt python from courses in addition to the school curriculum. I have also taken multiple professionally certified courses in computer science artificial intelligence. I am seriously involved in research publications using artificial intelligence and its applications in biomedical engineering.

Sports especially basketball along with swimming have always been an integral part of my co-curricular life. I have been leading my teams in inter-school basketball tournaments in Boston, the NCR region (around Delhi), and Bangalore. I was selected as one of the top 40 players in the country by the NBA academy center in India, an extension of NBA global training system. Sports has taught me that persistent, consistent hard work and proper knowledge are the key to achieving excellence. Sports has taught me how to perform in time bound high stress environments when expectations are nothing less than excellence. Loss in sports taught me how to deal with failure and how to effectively learn from your mistakes and not repeat them and identify weaknesses.

Applying artificial intelligence to the biomechanics and conditions of the human body interests me more as I have first-hand experience with high performance athletes struggling with injuries that have gone misdiagnosed, myself being one of them. Artificial intelligence having enough training data could predict based on body type, type of injury, the severity, and through further analysis of MRIs and X-Rays determine the best possible method of rehabilitation and in fact prevention.

To my passion I would like to obtain a degree of a major in software engineering and a minor in bio-systems engineering as I feel this would allow me to grow in the fields that intrigue me. In computer science specializing in artificial intelligence would allow me to gain knowledge in the field that I need to achieve my goals.

Concordia University offers the best environment to achieve my goals due to its location in Montreal being such a culturally diverse place. The software engineering co-op program being the best in the country is a perfect fit for me allowing me to get vitally important work experience before moving towards a graduate degree in artificial intelligence.