

DARSHAK PATEL

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EDUCATION

BS	University of Waterloo, Honours Physics & Astronomy	05/2023
HS	Victoria Park Collegiate Institute TDSB OSSD Diploma	06/2018
HS	Victoria Park Collegiate Institute International Baccalaureate Diploma	06/2018

WORK EXPERIENCE

- Junior Astronomer**, Herzberg Institute Astronomy and Astrophysics 05/2022 – 08/2022
- Supervisor: Dr. Toby Brown
 - Conducted research on the competing influence of morphological and environment-driven quenching in VERTICO (Virgo Environment Traced in CO) survey galaxies using machine learning techniques
 - Utilized shared Jupyter and python computing environments for scientific analysis and plotting
 - Presented my research to the VERTICO collaboration and in research centre meetings
- Undergraduate Research Associate (on DEAP-3600)**, SNOLAB 09/2021 – 12/2021
- Supervisor: Dr. Chris Jillings
 - Performed calibrations and quantified the electronic noise and charge resolution of the photomultiplier tubes (PMTs)
 - Programmed a Python script tasked to automate the data analysis for the experiment
 - Assisted with hardware upgrades for the DEAP-3600 detector (e.g., rebuilt roughing pumps, leak checked large dewars, rebuilt a citric acid wash)
 - Trained and experienced in the use of cryogenics (e.g., Liquid Nitrogen and Liquid Argon)
- Space Radiation Project Assistant**, Canadian Space Agency 09/2020 – 04/2021
- Supervisor: Mrs. Leena Tomi
 - Assisted with the analysis and storage of data from the Radi-N2 study onboard the International Space Station (ISS)
 - Assisted with an ongoing radiation bio-monitoring program and associated research in collaboration with Health Canada
 - Conducted systematic literature searches and literature review

Science and Math Online Expert, 360 Education Labs Inc

01/2020 – 04/2020

- Conducted tutoring sessions for students ranging from kindergarten to Grade 12
- Compiled detailed and organized weekly reports
- Tracked the movement and usage of major company assets
- Provided technical support for both tutors and students

HONORS AND AWARDS

University of Waterloo Athletic Financial Award 2023

Awarded to student-athletes at the University of Waterloo in recognition of their academic and athletic achievements.

Dean's Academic Honor List – 4th Year 2021

Awarded to full-time study students who achieve and maintain an average of 80% (Or higher) for the duration of the academic year.

Dean's Academic Honor List – 3rd Year 2020

Awarded to full-time study students who achieve and maintain an average of 80% (Or higher) for the duration of the academic year.

Dean's Academic Honor List – 2nd Year 2019

Awarded to full-time study students who achieve and maintain an average of 80% (Or higher) for the duration of the academic year.

Dean's Academic Honor List – 1st Year 2018

Awarded to full-time study students who achieve and maintain an average of 80% (Or higher) for the duration of the academic year.

President's Scholarship 2018

Awarded to incoming undergraduate students who have an admission average between the range of 90% to 94.9%

PRESENTATIONS

Student Presentation, “Examining Morphological Quenching in the VERTICO Survey Galaxies using Machine Learning”, NRC HAA Science Talk, August 18th, 2022.

Student Presentation, “Examining Morphological Quenching in the VERTICO Survey Galaxies using Machine Learning”, NRC Summer Student Showcase, August 17th, 2022.

Student Presentation, “PMT Charge Resolution and Electronic Noise for DEAP-3600”, SNOLAB Fall 2021 Student Talk Competition, December 15th, 2021.

COMPUTER SKILLS

Programming: Python, C++, BASH, Git, HTML, CSS, R

Applications: Microsoft Applications (Word, PowerPoint, Excel, Publisher), Jupyter, ROOT, Adobe Photoshop, Adobe Lightroom,

Operating System: Windows, MacIntosh, Linux/Unix

PROFESSIONAL TRAINING

SNOLAB, Undergraduate Research Associate 09/2021 - 12/2021

- SNOLAB Site Specific In-Person Underground Training
- SNOLAB Site Specific Online Training
- Vale General Tier-1 Training
- Vale Tier-2 (Mines Operation) Training
- Vale General Tier-3 (Creighton Site Specific) Training

COMMUNITY SERVICE

BAPS

Regional/National Youths Activity Coordinator, Toronto 09/2015 - Present

- Organize weekly classes for youth ages 16 to 23 at the local temple (i.e., a center) to keep youth active in the community
- Led a team of 10 in producing and writing content for a national youth convention held in 2019
- Analyze weekly statistics of the center using an online database to infer future trends for the center and areas of improvements
- 500+ hours of service

Skate Canada

CanSkate Program Assistant, Toronto 09/2014 - 04/2018

- Taught lessons to skaters independent of coaches; developed effective teaching skills and an understanding for safety
- Communicated with parents through face-to-face interactions regarding their skater's progress and program updates; refined my interpersonal communication skills
- 150+ hours of service

LANGUAGES

English: Fluent Speaker, Reading and Writing

French: Novice Speaker, Reading and Writing

Gujrati: Novice Speaker, Intermediate Reading, and Writing