Anish R. Verma

Curriculum Vitae

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Education

2022 **Professional Scrum Master I (PSM I)**, *Scrum.org*.

2022 **Project Management Professional (PMP)**, *Project Management Institute*.

2019 - 2021 **M.Sc.**, *University of Guelph*, Physics, (Transition to Industry).

2013 - 2018 **B.Sc. Honours**, *Simon Fraser University*, Chemical Physics.

Industry Experience

Dec. 2022 - Present **Product Associate** at **Good Chemistry**

- Developing product marketing collateral to accelerate material design through computational simulations on the cloud leveraging quantum computing, artificial intelligence, and machine learning.
- Analyzing multiple market segments to help drive product development, marketing, and strategy.

Dec. 2020 - Dec. 2022 **Quantum Computing and AI Research Scientist** at **1QBit**

- Explored the use of the Variational Quantum Eigensolver and a novel risk metric in an asset selection problem for Gate Model Quantum Computers.
- Researched machine learning algorithms for computational finance problems, including diffusion machine learning for behavioural investment suggestions.
- Researched novel mixture distribution for risk in automated trading algorithm.

Sep. 2021 - Oct. 2022 **Chief Operating Officer / Technical Program Manager** at **STEM Fellowship**

- Directing the operations of the organization, pushing forward its Science Communication, Data Science, and STEMpowerment pillars.
- Worked with the managing team, board of directors, and stakeholders to grow of the number of programs, funding, and number of organization members.
- Initiated the adoption new technologies and train the youth of Canada in artificial intelligence, machine learning, blockchain, quantum computing, and more.

Oct. 2021 - Mar. 2022 **Business and Project Manager** at **Quantum Algorithms Institute**

- Through a series of strategic workshops, initiatives, and research, I successfully generated company leads that can benefit from quantum computing and quantum-inspired solutions.
- Designed and implemented formal business operations processes.
- Designed workshops with topics ranging from statistics to modern machine learning methods.

Feb. 2020 - Aug. 2021 **Chief Data Officer / Project Manager** at **STEM Fellowship**

- Directed several large teams in organizing national data challenges.
- Led and oversaw data analytics for the organization.
- Designed workshops with topics ranging from statistics to modern machine learning methods.

Sep. 2016 - Sep. 2019 **SFU Science Undergraduate Research Journal Executive Editor**

- Managed, published, promoted, and financed the Journal's operations.
- Led a team of $\sim$ 20, in communicating with authors, referees, and sponsors

Publications

Sep. 2022 **Sentiment-Based Analysis of Twitter Data for the Black Lives Matter Movement**, J. Peng, J. Fung, M. Murtaza, A. Rahman, P. Walia, A. Verma. *STEM Fellowship J.* https://doi.org/10.17975/sfj-2022-015

Aug. 2021 **An Analysis of the COVID-19 Infodemic: The Extensive and Disproportionate Impact of Public Behaviour on Sentiment Towards Hydroxychloroquine**,
E.W.L. Chan, G. Choi, K.S.K. Wong, S. Zeng, A. Verma. *STEM Fellowship J.* https://doi.org/10.17975/sfj-2021-001

Jan. 2021 **A Comparison of Text Sentiment and Market Sentiment US Treasury 10-Year Note Futures and Changes to Cash in Circulation using Sentiment Analysis and the CME Market Sentiment Meter**,
P. Hong, A. Verma *1QB Information Technologies Inc.* White Paper

Jan. 2021 **CME Market Sentiment Meter Historical Market Analyses - Natural Gas: 2014 North American Cold Wave**,
A. He, A. Verma *1QB Information Technologies Inc.* White Paper

Oct. 2020 **Trading Algorithm Navigation Using a Mixture Distribution Risk Model**,
A. Milne, A. Verma, et al. White Paper

Aug. 2020 **CME Market Sentiment Meter Historical Market Analyses - 2019 Federal Funds Rate Cuts**,
A. Verma, A. Milne *1QB Information Technologies Inc.* White Paper

May. 2020 **Market Reactions to COVID-19 - A review of Q1 2020 as seen in the CME Market Sentiment Meter**,
A. Verma, A. Milne. *1QB Information Technologies Inc.* White Paper.

Apr. 2020 **CME Market Sentiment Meter Historical Market Analyses - September 14, 2019 Abqaiq-Khurais Attack**,
A. Verma. *1QB Information Technologies Inc.* White Paper.

Aug. 2017 **Collective and Single-Particle Degrees of Freedom in Rotating Nuclei**,
A. Verma, K. Starosta. *Can. J. Chem.* doi:10.1139/cjc-2017-0275.

Awards and Honours

2020 **TakingITGlobal** Rising Youth Grant.
2020 **QEII-GSST** The Queen Elizabeth II Graduate Scholarships in Science and Technology.
2020 **OGS** Ontario Graduate Scholarship (Declined).
2020 **Mitacs** Accelerate Fellowship.
2019 **NSERC** Canada Graduate Scholarships-Master's.
2018 **SFU** Convocation Speaker for the Faculty of Science Graduating Class of 2018 (Video).
2017 **CAP** Division Oral Finalist: 2nd Place in the Division of Nuclear Physics.
2017 **CINP** Undergraduate Research Scholarship.
2017 **NSERC** Undergraduate Student Research Award.
2017 **SFU** Melanie O'Neill Undergraduate Research Award.
2016 **SFU** Chemistry Undergraduate Research Presentation Award.

Computing Skills

Languages Python, Fortran, MATLAB, Mathematica, Bash.
Software Microsoft Office, LibreOffice, LaTeX, Photoshop, InDesign, GIMP, Inkscape.
OS Linux, MacOS, Windows

Conference/Workshop Organization

Dec. 2021 **Quantum Algorithms Institute – WESTAC Quantum Computing for Transportation and Logistics Workshop Series** - Lead Organizer

July. 2021 **Undergraduate Big Data Day 2021** - Director and Organizer

Feb. 2021 **High School Big Data Day 2021** - Director and Organizer

July 2020 **Undergraduate Big Data Day 2020** - Director and Organizer

Conference Presentations

Sep. 2020 **Tech Under Twenty Expo** - Invited Panelist.

Aug. 2017 **UBC & SFU Physics Undergraduate Conference** - Oral Presentation.

May 2017 **Canadian Association of Physicists Congress** - Oral Presentation.

Feb. 2017 **Winter Nuclear and Particle Physics Conference** - Oral Presentation.

Oct. 2016 **Fall Meeting of the American Physical Society DNP** - Poster Presentation.

Teaching Experience

2022 **University of Toronto – Institute for Management & Innovation**, *Quantum Computing and its Applications in Finance*, Workshop.

2021 **University of Toronto – Institute for Management & Innovation**, *Supervised and Unsupervised Machine Learning*, Workshop.

2019 **University of Guelph**, *Physics for Life Sciences*, Teaching Assistant.

2017 **Simon Fraser University**, *Physics Laboratory II*, Teaching Assistant.

2013 - 2018 **Private**, *Physics, Chemistry, Mathematics, Statistics*, Private Tutor.

Volunteering

Sep. 2017 - Aug. 2018 **Chemistry Student Society (CSS) Executive**

- Planned and hosted series of networking events, research lab tours, and more.
- Promoted local industry and research opportunities to foster a stronger student community.

Nov. 2016 **Science Outreach Volunteer**

- Participated in several events to promote the Faculty of Science at SFU, including a video in which I appear representing the Department of Physics.

Sept. 2015, 2016, 2017 **Science FROSH Leader**

- In annual weekend long events, I led groups of ten science freshmen to start their university career as part of a larger community and enrich their overall experience.
- A video showing the success of the 2017 event may be found here.

Interests

Art Shows I enjoy attending local pop-up art shows, and helped in setting up a 2cream2sugar SHOWCASE.

Activities Hiking, Traveling, Photography.