Suraj Bansal

surajbansal.ca

Suraj.Bansal@uhnresearch.ca | (647) 668-8108

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Education —

Bayview Secondary School   Richmond Hill, Ontario
International Baccalaureate Diploma   *September 2017 - Present*

- **Relevant Courses -** Chemistry (HL), Economics (HL), English (HL), Biology (SL), Calculus (SL), French (SL), Theories of Knowledge (SL), Extended Essay (Computer Science): Emerging quantum cryptography and encryption systems
- **Academic Performance -** Honour Roll (2017 - Present). Current Grade 12 weighted average: 97%
- **Alternative Coursework and Certification -** Harvard CS50x (edX) , Stanford Machine Learning (Coursera), Johns Hopkins Genomic Data Science (Coursera), University of California Berkeley Quantum Mechanics and Quantum Computation (edX), Caltech Quantum Cryptography (edX)

Work Experience —

The Pugh Lab, PM-OICR Translational Genomics Cancer Laboratory, UHN   Toronto, Ontario
Student Researcher   *October 2020 - Present*

- Conducted high-resolution examinations of tumour DNA, RNA and epigenetic marks from primary tumour biopsies and developed bioinformatic tools to support clinical laboratory workflows
- Advancing the development of CReSCENT (crescent.cloud) — a containerized, web-based, pipeline execution engine for standardized analysis of single-cell RNA sequencing data including normalization and cell clustering

The John Dick Lab, Princess Margaret Cancer Centre, UHN   Toronto, Ontario
Research Intern   *September 2020 - Present*

- Profied tumour microenvironments using single-cell genome sequencing technologies to identify prognostic biomarkers and develop targeted therapeutics for Acute Myeloid Leukemia through genomic characterization
- Applied machine learning approaches to map mechanisms of disease to clinical outcomes and identify patient groups from their clinical signatures to quantitatively assess drug effectiveness in Acute Myeloid Leukemia

Ryde AI   Toronto, Ontario
Project Lead, Software Developer, and Co-Founder   *April 2020 - Present*

- Currently developing open-source self-driving software, leveraging bluetooth to interface vehicle diagnostics with a smartphone application to enable self-driving features like automated lane centering and adaptive cruise control
- Developed company website, mobile application, machine learning models, and conducted consumer feedback surveys, market analysis, and investor pitches (Amazon investor pitch finalists, Sparkteen accelerator finalists)

Synbiolic   Toronto, Ontario
Software Developer and Project Lead   *December 2019 - April 2020*

- Creating a client-facing app for computational drug discovery (Microsoft Imagine Cup North American Finalist)
- Applied probabilistic deep learning and policy approximation to generate molecules and programmed retrosynthesis pathways to synthesize them to produce novel drug-ready molecules

Kidogo   Nairobi, Kenya
Project Consultant   *February 2020 - March 2020*

- Created an innovation plan to increase mamapreneur profits 43% and reduce childhood malnutrition with community sensitization workshops, sack farming pilot programs, a revamped curriculum research and development process and strategic partnership contracts

Sidewalk Labs   Toronto, Ontario
Quayside Project Consultant   *November 2019 - February 2020*

- Created an innovation plan to reduce household expenditures through a sharing economy digital infrastructure that monetizes personal assets (selected from 50 teams to present at Sidewalk Labs headquarters to C-level team)

Baylor Scott and White Health
Summer Intern

Dallas, Texas
August 2019

- Shadowed physician rounds working in fields of trauma, hematology, and internal medicine in both the hospital and out-patient clinic environment at Texas' largest healthcare system

The Grover Lab, St. Michael's Research Centre
Keenan Research Summer Student

Toronto, Ontario
June 2019 - July 2019

- Researched the transfer of endoscopic skills with an endoscopic simulation curriculum using EndoVR (CAE Healthcare) - a high-fidelity interventional virtual reality endoscopic simulator
- Supported UoFT Medical residents (course participants) in troubleshooting difficulties with the virtual reality system, assisting with data entry tasks, patient roleplays and reporting simulation-collected performance metrics

Leadership and Volunteer Experience —

The York Region Presidents' Council
Prime Minister

York Region, Ontario
September 2018 - Present

- Coordinated 11 executives to execute monthly general assemblies for students from 33 secondary schools (increased event attendance from 20 to 1,300 attendees in 3 years), and represent 130,000 students of the York Region District School Board at board meetings
- Secured $30,000 in funding and created sponsorship materials to collect $3,000 of in-kind donations to launch BLAST (Breaking Labels and Stigmas Together), the school board's largest annual mental health conference

The Richmond Hill Mayor's Youth Action Committee
Director of Logistics

Richmond Hill, Ontario
September 2016 - Present

- Coordinated internal team of 35 members for the conceptualization and execution of 5 annual, city-wide events to promote community involvement for youth of Richmond Hill, attracting nearly 300 event attendees
- Created sponsorship materials, collecting total $1,500 worth of donations and event programmes/itineraires

TEDxYouth Toronto
Youth Organizer

Toronto, Ontario
June 2018 - November 2019

- Sourced event speakers (Olympic gold medalists, world-class performers, Dragons Den Investors and Masterchef Champions), and retained partnerships with Western Ivey, RBC, Shopify, and UoFT, procuring $15,000+ sponsorships
- Coordinated strategic marketing strategies; personally responsible for 20% of event applications

Bayview Secondary School Student Council
Grade 9 Representative

Richmond Hill, Ontario
September 2017 - June 2018

- Represented 400+ Grade 9 students and was invited to represent Bayview at the YRDSB Unity Rally, Ring of Peace
- Contributed to the execution of school events, fundraisers and semi-formal for over 1,500 students

First Nations High-Five Initiative
Founder and Chairman

Thunder Bay, Ontario
September 2016 - September 2017

- Coordinated internal volunteer team of 50 students to launch community-wide fundraisers, collecting $4,500 in school supplies donations for the Nibinamik (Summer Beaver) First Nations Reserve in Thunder Bay, Ontario

Karnataka Centre for Developmental Dissabilities
Teaching Assistant and Curriculum Developer

Bangalore, India
July 2017

- Developed computational literacy and English curriculums and assisted with teaching in classroom setting of 20 students while volunteering 1-on-1 mentorship sessions during after-school hours
- Created 100-slide interactive life skills powerpoint series and mental health resource package for students

Skills Summary —

- **Programming Languages -** Python, R, HTML, CSS, Javascript, C/C++
- **Platforms and Technologies -** Tensorflow, NumPy, Pandas, Scikit-Learn, Matplotlib, Git, Scanpy