

Virtual Ventures

2024 Impact Report

Ignite Curiosity, Explore STEM, Create Change



Carleton
University

Virtual
Ventures

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Message from the Dean



When we introduce science, technology, engineering and math (STEM) concepts to youth early-on, we ignite their passion for creativity and problem-solving.

Virtual Ventures, a social impact organization run by Carleton University's Faculty of Engineering and Design, has been pursuing these objectives for over 30 years. As of 2024, Virtual Ventures has engaged over 100,000 youth in the National Capital Region through award winning programming, workshops and events.

What makes Virtual Ventures special? The people. Carleton University is internationally recognized for its commitment to academic excellence in team-style learning environments. This approach is reflected by Virtual Ventures staff and volunteers, the majority of whom are drawn from undergraduate students in engineering, information technology, industrial design and architecture programs at Carleton.

Our programs also benefit from strong connections to local and national organizations, school boards, industry and government. Together, we are lifting the interest in STEM among youth by making concepts inclusive and accessible to all.

This year, I am particularly proud of our newly launched Black Youth in STEM program that provides Black youth with mentorship and skill-development workshops. The program is backed by leading Black mentors in the National Capital Region who have volunteered their time and expertise to support hands-on learning.

Thank you to the Virtual Ventures network of volunteers, staff, partners, supporters and participants for your continued support. This organization would not be possible without your incredible contributions.

Here's to another year of profound impact.

Larry Kostiuk, PhD, PEng, FCSME, FCAE
Dean, Faculty of Engineering and Design
Carleton University

Territory Acknowledgement

Virtual Ventures acknowledges the Algonquin nation whose traditional and unceded territory we are gathered upon. We do this to reaffirm our commitment and responsibility in improving relationships between nations and to improving our own understanding of local Indigenous Peoples and their cultures. Together, please consider how can move forward in a spirit of conciliation and collaboration.



About Virtual Ventures

Carleton University's Virtual Ventures is an award-winning social impact organization. As a network member of Actua, Virtual Ventures offers nationally recognized technology and engineering programs for youth between kindergarten and grade 12. Programs include summer camps and academies, workshops, clubs, and events with tailored programming available for girls, Indigenous and Black

youth and underserved communities. Virtual Ventures has engaged over 100,000 youth in the National Capital Region with stimulating experiences in all aspects of computers, information technology, engineering, and science. Virtual Ventures marked its 30th year of operation in 2024. Visit carleton.ca/vv to learn more.

Areas of Special Focus

All Girls

Whether events, camps, clubs or collaborations, all girls programming is designed by girls for girls. The STEM programs for girls provide participants with informal mentorship from industry and government professionals and hands-on activities. A particular area of focus is technology, with seventy-three percent (73%) of Virtual Ventures' programming focusing on digital skills. Among the most popular large-scale digital skills programs offered are Technovation, Hour of Code and Game Jam. Virtual Ventures caters specifically to all girls through Go Eng Girl, Go Code Girl and Badge Days with local Girl Guide groups.

Notable successes:

- Piloted Go Phys Girl, a variation of Go Eng Girl, with a focus on physics. In partnership with Carleton's Faculty of Science, Virtual Ventures ran women-taught physics classes to girl students in high school. Labs were facilitated by women professors with a focus on real-world examples, including how motion and gravity are used for amusement park rides.
- Partnered with PCL Construction on multi-year Go Eng Girl events. Welcomed 12 women engineers who offered informal mentorship and candid conversations with program participants.



Indigenous Youth

InSTEM is a program for Indigenous youth to raise STEM awareness and knowledge. The Virtual Ventures team worked with students in the National Capital Region through class visits, much of which included fully Indigenous classrooms. The integration of camps and the unique benefits of learning through these immersive environments have also been integral to Virtual Ventures' success. The Youth Land Camp and Educator Land Camps held at Thompson Island, Akwesasne, focus on land-based learning to promote the preservation of cultural teachings. They allow for educators to combine Indigenous knowledge with Western

STEM concepts, help youth see themselves in STEM, and help youth earn a high school credit. Educators also get a better understanding of the value of Indigenous ways of knowing in STEM and how to better support Indigenous youth in their educational journeys.

Virtual Ventures' on-campus free camp for Indigenous youth, known as Connections, was brought back after a hiatus due to the COVID-19 pandemic. Staff engaged with local friendship centres to make new connections with Indigenous youth and STEM experiential learning opportunities.

Notable successes:

- Held sessions for 197 Indigenous youth between kindergarten and grade 12.
- Hosted two youth camps, one on-campus camp in the summer and one camp hosted at Thompson Island.
- Welcomed 9 cultural speakers to STEM activities.





Black Youth

New this past year, the Virtual Ventures team introduced a new Black Youth in STEM program. Youth participated in hands-on 'Build and Pitch' activities to practice their engineering and entrepreneurship skills with various scenarios. Participants also enhanced their problem-solving, collaboration and communication skills.

The program was built in collaboration with Carleton University's Black

Entrepreneurship Knowledge Hub, Shopify and with consultation from Actua to establish industry mentor connections. Virtual Ventures also hosted university student mentors from the Umoja Black Community Engagement Program. Thanks to BGC for hosting workshops at their four clubhouses, and the Ottawa-Catholic School Board for promoting the program through their Black Youth in STEM club and Black Student Summer Program.

Notable successes:

- The Black Youth in STEM program increased the reach of Virtual Ventures with high school audiences in 2024 accounting for 10% of all youth interactions.

Underserved Youth

The Go Where Kids Are program focuses on the challenges surrounding underserved youth through hosting community workshops and Linked>. The latter program is an award-winning joint initiative offered with Shopify and BGC to help underserved youth establish digital and technology skills. New this

year, Linked> ran weekly workshops during the fall, winter and summer through BGC summer camps. Program participants had the opportunity to meet Shopify employees in a STEM field, who joined the sessions as mentors and career role models.

Notable successes:

- Reached 2,166 underserved youth with the Go Where Kids Are program.
- Through the summer outreach program hosted at BGC clubhouses and at public libraries in rural communities, 350 additional youth were reached this year.



Educator Engagement

With limited time and resources, educators struggle to integrate complex STEM concepts (such as coding) effectively in their classrooms in a way that maximize student engagement. To be part of the solution, Virtual Ventures developed Lesson Launch Packs—simple, detailed STEM lessons designed to seamlessly integrate coding into the classroom. Each pack includes detailed program instructions, uses free and accessible software, and allows room for student creativity.

Educator feedback:

“The launch pack was very well done! Incredibly easy to follow instructions, with clear explanation of what is being done and what everything does.”

“The lessons creates such excitement in students’ learning. The program gives students a different perspective and a hands-on experience.”

Notable successes:

- 350 packs distributed to educators in the National Capital Region.
- Collaboration with Actua for the annual Educator Land Camp and engaging 22 teachers through this process.



Partners and Supporters

We strive to partner with those who will join forces with us in advancing STEM education for youth. This would not be possible without our 2024 partners.



Sharing our vision while supporting our mission is what keeps Virtual Ventures going, all thanks to our 2024 supporters.



A network member of



Faculty of Engineering and Design

About Actua

Virtual Ventures is a proud network member of Actua. Actua is Canada's leading science, technology, engineering and mathematics (STEM) youth outreach organization. Each year, the Actua network, which includes over 40 colleges and universities across Canada, engages more than 375,000 youth in 600 communities in transformative STEM learning experiences that build critical skills and confidence. Actua relentlessly breaks down barriers to access and serves as the national voice of network members to advance STEM engagement, diversity and inclusion within Canada's science culture. Actua provides Virtual Ventures with funding, training and other resources. Visit actua.ca to learn more.

"Actua is very proud to have Carleton's Virtual Ventures as an outstanding network member in our national network. At Actua we are committed to engaging youth who face the greatest barriers to STEM engagement," says Jennifer Flanagan, CEO of Actua. "For 30 years, Virtual Ventures has done an amazing job delivering hands-on programming across the Ottawa region and beyond including working with Indigenous youth and youth facing socio-economic challenges, making sure that we have a robust and diverse workforce in the future."

A network
member of **actua**

2023-24 Actua National Funders



2024 Actua Award for Excellence

Virtual Ventures is extremely proud to announce that it has been awarded the 2024 Actua Award for Excellence.

The Actua Award for Excellence recognizes network members who exemplify excellence while delivering on a shared national mission to provide life-changing experiences in science, technology, engineering and math (STEM) so that ALL youth can be inspired to achieve their potential and fulfil their critical role in the world.

Specifically, the Actua Excellence Award recognizes outstanding achievement in one or more of the areas listed below:

- Overall excellence and Recent Program Improvements: overall evidence of a high-quality, long-term STEM program for youth, alignment with Actua's national program areas, as well as recent notable gains and improvements.
- Strong relationships and sustainability: How the program is structured for long-term success and has developed lasting and fruitful local partnerships.
- Content excellence: Content that is innovative, effective and implemented well.
- Staff recruitment and training: Finding and training outstanding youth leaders.
- Role Models and Mentorship: Evidence of diverse mentors and role models engaged in meaningful ways.
- Program feedback: evidence of program quality and impact.
- Contribution to the network: participation in Actua.



"Actua was pleased to present Virtual Ventures with the 2024 Actua Excellence Award. This recognition celebrates their dedication to delivering high-quality STEM programming and reflects their exceptional impact on the Actua network and the youth we serve. Virtual Ventures exemplifies the spirit of this award by fostering strong community relationships, building sustainable programs and inspiring young people to see their potential in STEM."

Jennifer Flanagan, CEO of Actua

"Fostering STEM curiosity and excitement among youth requires sustained effort and early engagement. Over the past 30 years, Virtual Ventures has become a cornerstone of STEM programming in the National Capital Region, benefiting youth, educators, and the broader community. We are honored to receive Actua's 2024 Excellence Award and extend our congratulations to all nominees for the important work being done at our sister institutions."

Larry Kostiuk, PhD, PEng, FCSME, FCAE
Dean, Faculty of Engineering and Design, Carleton University



2024 Impact

Virtual Ventures empowers youth to discover fun and safe learning environments while engaging in inclusive, hand-on STEM opportunities. It welcomes youth to discover more about themselves and their interests.

This past year, Virtual Ventures recognized significant milestones. We reached over 21,000 youth through our annual programming, celebrated our third decade of operations and cracked the 100,000-engagement since inception milestone. Virtual Ventures is proud to continue expanding our social impact to more youth in the National Capital Region and deepening our current connections.

Engaged **21,935 youth** in the National Capital Region:



76% between kindergarten and grade 6
14% between grade 7 and grade 8
10% between grade 9 and grade 12

Engaged **484 educators** in the National Capital Region:



Shared **454 STEM-teacher packs**

With support from:



135 industry and government mentors



97 high school volunteers



70 undergraduate student staff members

Programming by the numbers:

Reached

2,166

underserved youth

Reached

197

youth through Indigenous Youth in STEM

Reached

179

youth through Black Youth in STEM

53%

of participants are girls or non-binary youth

Staff and Volunteer Network

The success of Virtual Ventures would not be possible without the dedicated contributions of volunteers and undergraduate student-staff. Their commitment to providing excellent and accessible programming translates into positive experiences for participants. Often, Virtual Venture participants return as volunteers and staff members, all thanks to positive experiences and the incredible community of youth leaders.

Notable successes:

- 70 student employment opportunities for undergraduate students from engineering, design and science programs, with 12 co-op positions.







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