Iridescence:
Disrupting the classroom for the better

The education system has struggled to keep up with the constant evolution of technology. Iridescence, a global non-profit organisation, is revolutionising education by providing programmes that empower underserved children through technology and engineering. With a special focus on underrepresented girls, Iridescence challenges the negative myths surrounding AI and uses technology to inspire children to become innovators. Research Outreach spoke with founder and CEO Tara Chklovski of global non-profit Iridescent, discussing how Iridescent’s goals have become a reality.

Hi Tara! Can you tell us more about Iridescent in terms of its background, history and core mission? Iridescent is a global non-profit organisation that provides cutting-edge STEM education to underserved children, and their families through two programmes; Technovation and Curiosity Machine. We use technology-based and engineering-based programmes to achieve the aim of empowering the world’s underprivileged young people (especially girls) to become innovators and leaders.

Our organisation was founded in 2006 from a desire to help the education system, a system that is often slower to evolve in the rapidly changing technology industry. Since Iridescent’s founding, the non-profit has grown tremendously; we now operate in more than 115 countries and deliver STEM curriculum to more than 100,000 children and their families worldwide. Iridescent is proud to be the first organisation to assist young girls in underserved communities learn coding and app development skills through our Technovation Challenge. The Technovation Challenge programme introduces the girls to technological concepts in an engaging way. We recently introduced the Artificial Intelligence (AI) Family Challenge as a new part of our popular Curiosity Machine programme.

Tell us about your journey into Artificial Intelligence? What led you to launch an AI-focused programme? For 12 years, we have been introducing children worldwide to cool new technologies and scientific advances including nanotechnology, mobile computing and robotics. We are attuned to technological trends as well as being skilled at identifying new skillsets which are crucial that children have the technological knowledge and understanding to succeed in today’s digital world. Unfortunately, many education systems are insufficient in preparing children for the workforce, especially those from underprivileged upbringings. Iridescent has identified the necessity to incorporate STEM education, technology and AI into children’s lives at an early stage through cutting-edge programmes and technology. Through these methods, Iridescent hopes to inspire the next generation to become innovators.

Iridescent has experienced incredible growth since its inception in 2006, the non-profit now has a global reach. Iridescent’s success is attributable to its clear strategy, its collaboration with industry experts and its ability to stay abreast of technological evolution.

Our two primary programmes, Technovation and Curiosity Machine, introduce underserved communities to cutting-edge technologies.

In 2018 we are making greater strides towards our 2015-2019 strategic plan. We are taking steps that will help us measure, as well as share, the impact of our programmes on participants, mentors, partners, and educators more effectively. Furthermore, we have committed to increasing our transparency in our impact reporting.

Our proudest achievement in 2018 was the launch of the AI Family Challenge. The programme received a wonderful response from families, educators, professionals, and funders.

Can you tell us more about the two programmes Curiosity Machine and Technovation? What impact have they had so far? Our two primary programmes, Technovation and Curiosity Machine, introduce underserved communities to cutting-edge technologies. Through our detailed, yet accessible curriculum, we equip and empower kids, their families, and those mentoring or coaching them to apply the knowledge they have learned to solve real-world problems.

This year we launched our new initiative, the AI Family Challenge. The curriculum teaches children ages 8-15, and their parents about AI technologies. Families are guided through the process.

In 2018 alone we reached five of the six goals outlined in our 2015-2019 strategic plan. Notably, we increased participant reach nearly 40% to 35,000 annual programme participants, and we partnered with 7,000+ organisations worldwide. We were very proud of our organisational growth and increased corporate funders continue to turn to Iridescent as both a provider and partner. Stakeholders such as these trust Iridescent in delivering high-quality STEM education programmes that not only teach but also excite underserved youth.

Iridescent’s success is attributable to its ability to stay abreast of technological evolution.

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Left: A father and daughter in New Orleans build circuits as a part of their self-driving car game, learning basic artificial intelligence concepts. Right: Children in Somalia get familiar with materials they’ll use as a part of Iridescent’s AI Family Challenge.
of creating an AI-based product that solves problems that face society including transportation, health, the environment and education.

Engineering and AI-knowledgeable mentors support participating families. These mentors are rigorously trained to ensure participants have a positive experience that is both informative and engaging.

Techovation Challenge encourages entrepreneurship in girls (aged 13-18) and evaluating insights from our programme participants, mentors and educators are critical to understanding our programmes’ effectiveness. The evaluation process has also helped us identify ways to improve and enhance our programmes. We have learned many things across our programmes, most notably we’ve discovered:

- Children report having a better understanding of science and engineering (74.8%) and are more interested in science at school (74.8%);
- Parents report having a better understanding of science and engineering (77.8%) and that they will read more science books with their children (88.9%);
- College-level student instructors reported learning practical skills like critical thinking, creativity, public speaking, and collaboration.

We are excited about the impact our programmes have on our audiences. We are committed to applying a data-driven approach to continually improve our operations. Our aim is to ensure that we consistently deliver interesting and relevant information that is both educational and engaging.

Iridescent has some very well-known supporters and partners – why are they so important to Iridescent’s success? We are incredibly fortunate to have a wide variety of partners who are passionate about our mission to bring STEM education to underserved children and families through Iridescent. While our corporate partnerships take many forms, we have found some of the best relationships are designed around skills-based volunteering opportunities. Through these types of partnerships, corporations encourage companies to help children and families tackle challenges in underserved communities. We often express to us that their mentoring not only changes a child’s life but also can have a transformative effect on their own life. For example, the experience can teach the mentor how to communicate complex concepts more effectively while working in their own professional capacity.

Iridescent is a 501(c)(3) registered non-profit organisation, and you can verify transparency by openly publishing your financial documents on your website – has this received a positive reaction?

We believe transparency is very important and we consistently receive positive reactions across all our stakeholders for our openness. In fact, for 2018, we changed our reporting policies so that for our openness. In fact, for 2018, we have this received a positive reaction?

For our programmes either individually, or through their employer. We regularly work with technology professionals to invent challenges for students based on the professional’s line of work. This could include anything from driverless cars to robotics.

Another method we use is encouraging professionals to share their story via video such as teaching families about a topic within their area of expertise or to inspire children and families to tackle challenges within our programs.

Professionals can also make a difference by acting as mentors, either online or within the community. Mentors often express to us that their mentoring not only changes a child’s life but also can have a transformative effect on their own life. For example, mentoring can teach the mentor how to communicate complex concepts more effectively while working in their own professional capacity.

Iridescent is the leader in AI-education for both children and parents. Iridescent will continue to introduce collaborative platforms to families worldwide. Through our platform, families can create disruptive projects while embarking on exciting learning journeys in technology.

To find out more about Iridescent’s mission and their programmes to help young people develop, please visit their website at http://iridescentlearning.org.

Many other industries in multiple ways. We are curious about how Virtual Reality combined with AI will result in unique learning journeys for students. Iridescent has the potential to completely disrupt learning as we know it.

In five years, I hope Iridescent will be the leader in AI-education for both children and parents. Iridescent will continue to introduce collaborative platforms to families worldwide. Through our platform, families can create disruptive projects while embarking on exciting learning journeys in technology.

For more information about Iridescent and its programs, contact info@iridescentlearning.org.