

From building and launching rockets, to learning about protecting local waterways, to coding app-based solutions for real-world challenges, today's youth are solving real-world challenges through exciting science, technology, engineering, and mathematics (STEM) programs in afterschool settings. Afterschool programs nationwide are transforming STEM education by integrating hands-on learning with meaningful engagement and community action.

Over the last decade, afterschool STEM has become widespread, with **77%** of parents agreeing that afterschool programs help children gain interest and skills related to STEM<sup>1</sup> and **65%** of parents saying they chose their child's afterschool program based on the availability of STEM and computer science opportunities.<sup>2</sup>

Afterschool STEM experiences support youth in building the interest, confidence, and durable skills (such as communication, collaboration, critical thinking) that are critical in today's workforce and essential for modern citizenship. Jobs in STEM fields—especially in high-growth areas like Artificial Intelligence (AI), data science, and cybersecurity—are fueling the current expansion and growth of our economy. Afterschool programs provide opportunities for youth to experiment with these emerging technologies and fields, as well as engage in critical discussions on their responsible and thoughtful implementation in society.<sup>3,4</sup>

Investing in high-quality afterschool and summer STEM learning programs is a strategic imperative that will help young people build essential, durable skills and prepare them for the most in-demand roles in these industries.



Photo credit: Scientiae Future Forward

### STEM Workforce Challenge

- Occupations, such as computer and mathematical jobs, are projected to grow by 10.1% between 2024 and 2034—more than triple the average economic growth rate.<sup>5</sup>
- In sectors like manufacturing, approximately 1.9 million new jobs are projected to go unfilled by 2033 if the current skills gap persists.<sup>6</sup>
- We are not tapping the full pool of talent, leading to shortages.

### Afterschool STEM Offers a Solution

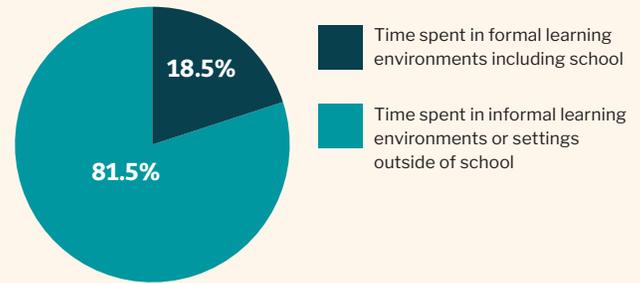
- Fostering STEM skills like inquiry, reasoning, and problem-solving through hands-on engagement.
- Exposing youth to STEM career pathways and role models from a variety of cutting-edge STEM fields.
- Increasing the pool of young people engaged in STEM, especially among youth who typically are not, including girls and youth of color who are underrepresented in STEM.

## Program Spotlights

The Boys and Girls Clubs of Western Pennsylvania hosts the AI Pathways Institute (APII) Activation Camp, where high schoolers explore AI fundamentals through hands-on, real-world applications. Students leave the camp with a working knowledge of AI terminology, concepts, applications, and ethical concerns.

Similarly, Scientiae in Florida integrates AI and machine learning literacy in its programming alongside critical conversations about how AI impacts society.

## Learning Doesn't Just Happen In School



Students spend more than 80% of their waking hours learning outside of school—in afterschool and summer programs, libraries, museums, the community, and more.

Source: The LIFE Center's Lifelong & Lifewide Diagram accessible at <http://life-slc.org/>

## Benefits of High-Quality Afterschool STEM

Afterschool programs can almost double the amount of time some students have to question, tinker, learn, and explore STEM topics outside of school.

- Fostering positive youth development and a sense of belonging<sup>7</sup>
- Closing opportunity gaps by serving a diverse range of learners<sup>8</sup>
- Leading to higher STEM career pursuits and college graduation rates<sup>9,10</sup>

## Supporting Afterschool STEM Is Critical

Parents of nearly 30 million children want them in afterschool, but more than 3 in 4 children are missing out. Afterschool STEM programs are not a luxury, but a strategic imperative. These programs offer settings for youth to gain a broad range of knowledge and skills needed to thrive in today's economy. By supporting this vital investment, we ensure that all youth have access to the high-quality, relevant STEM education needed to flourish in the 21<sup>st</sup> century.

## Stay Informed and Get Involved!

By investing in and partnering with afterschool programs, we can build a robust STEM learning environment in every community that will expand access for all young people. Learn more: [www.afterschoolstemhub.org](http://www.afterschoolstemhub.org)



### Sources

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The Afterschool Alliance is working to ensure that all children have access to affordable, quality afterschool programs

