NOVEMBER 2025

ARK

THE MINDS OF THE FUTURE

FIXING THE FUTURE ONE GIANT LEAP AT A TIME

ENGINEERS OF OUR STEM COMMUNITY

TOP STEM SCHOLARSHIPS OF 2025

ARK'S FIRST COMPETITION

RECENT EVENTS

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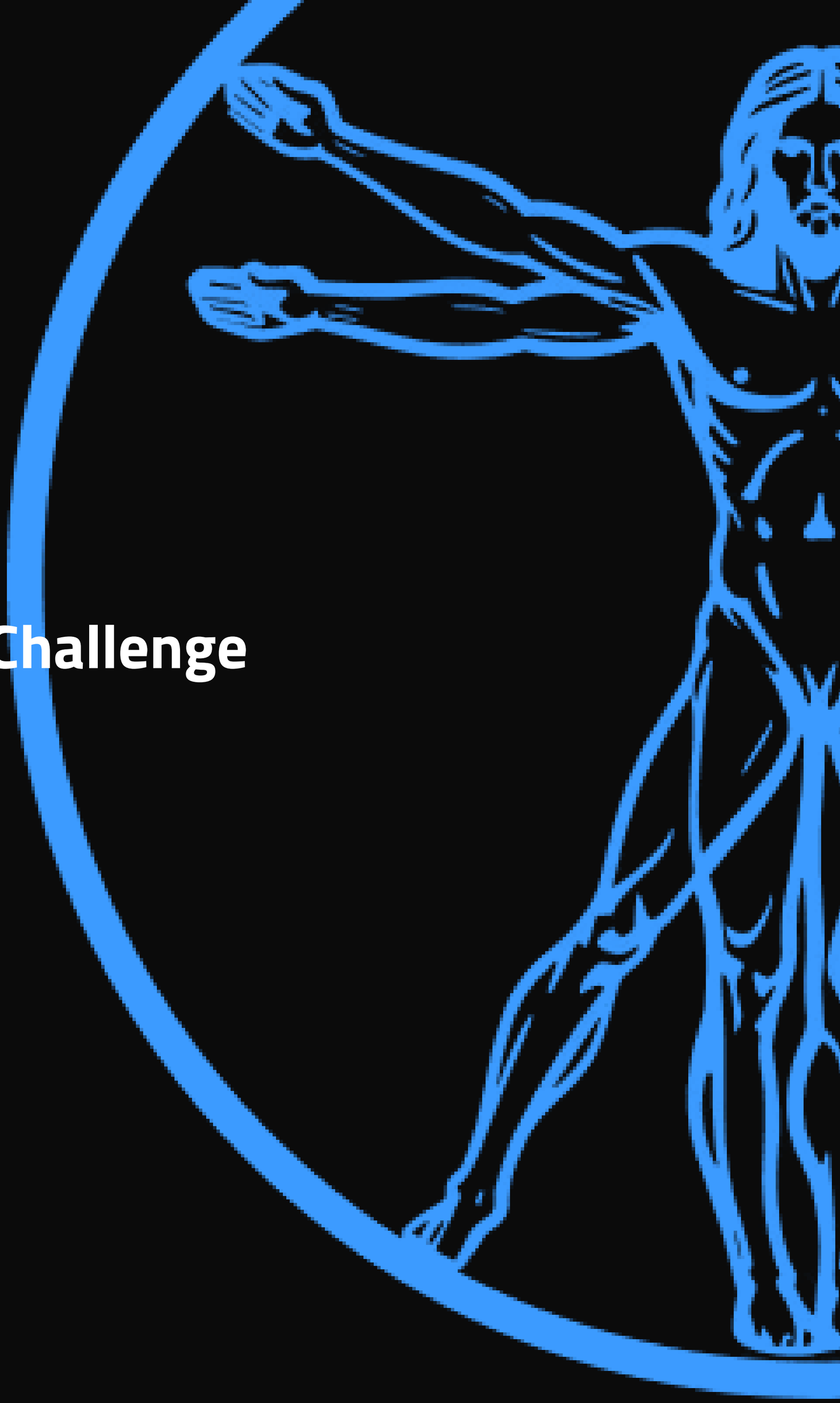
Contents



01

Blogs

This image is from one of our blog posts by the name of “Top STEM Scholarships in 2025: How to Apply and Win”

Would you like to see more blog posts? Check out our site: blog.ark-stem.com

The three articles coming up emphasize how STEM inspires creativity, opportunity, and critical thinking. The first shows how hands-on projects like circuits, coding, and reverse engineering help kids become inventors, not just followers. The second lists the top STEM scholarships for 2025 and offers strategies to win them through planning, storytelling, and precision. The third explains that real STEM learning builds reasoning and curiosity, teaching students to see truth, not just memorize facts, so they grow into thinkers and creators who shape the future.

01 Blogs

STEM Activities for Kids That Spark Innovation at Home

Most people think STEM for kids means buying a kit off Amazon and following step-by-step instructions until the lightbulb blinks or the robot walks. That's not innovation, that's coloring inside the lines. Real STEM is about curiosity, problem-solving, and seeing the world as something you can shape, not just consume.

Kids don't need more worksheets. They need hands-on challenges that let them fail, adjust, and finally succeed. That's where real learning and real innovation happens. And you don't need a lab or expensive tools to spark it. You can turn your home into an innovation hub with a little creativity.

1. Build Circuits From Scratch

Electronics is intimidating to most kids until they realize it's nothing more than pieces talking to each other. Give your child a breadboard (Figure 1), some LEDs, wires, and a battery pack. Then step back and let them figure it out. The question is simple: "How can you make this light turn on?"

Once they succeed, raise the stakes. Can they make it blink? Can they connect a switch? Can they power two lights at once? This open-ended exploration teaches logic, patience, and creativity. Every time they fail and retry, their brain rewires to think like an engineer.

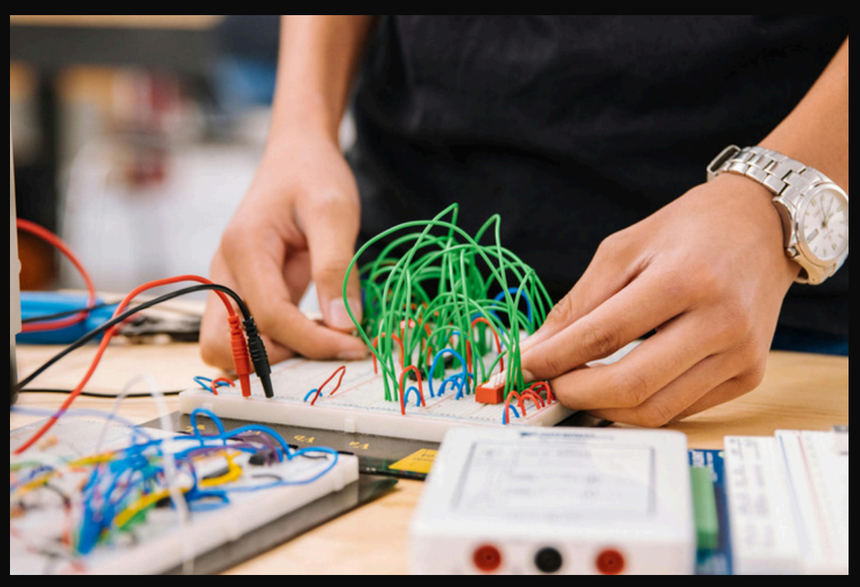


Figure 1

Bread Board

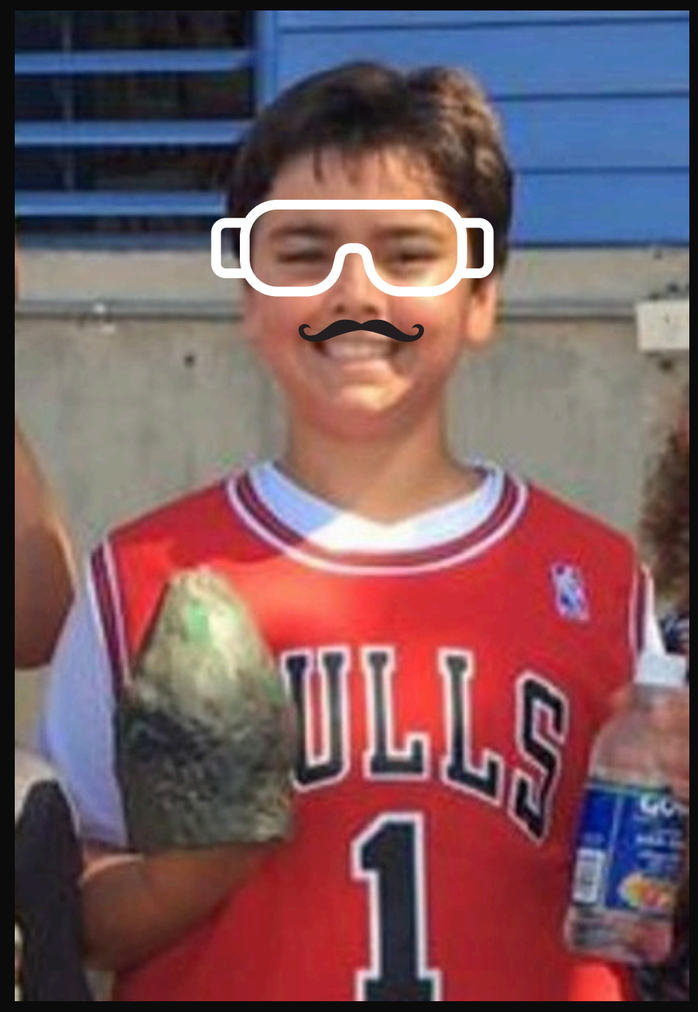
2. Kitchen Chemistry With Purpose

Every kid has seen the baking soda and vinegar volcano (Figure 2). It's fun, but it's spectacle, not innovation. Flip the script. Ask: "Can we invent something useful?"

Try making natural glue from milk and vinegar, homemade soap, or a simple cleaner with lemon and salt. Let them see chemistry as a tool for solving problems, not just making fizz. This subtle shift teaches them that science isn't magic, it's a set of principles you can wield to build something new.

3. Code With Real-World Results

If you tell a kid to sit down and "learn Python," they'll tune out. But if you show them they can write five lines of code and make a light turn on, a motor spin, or a doorbell chime, they'll light up.



Baby Faced Hector ***Figure 2***

Get a Raspberry Pi, Arduino, or even a simple micro:bit. Set challenges: "Make this fan turn on when you press a key." Or "Make the speaker play a sound when the sensor detects motion."

When kids see code moving objects in the real world, they stop seeing computers as black boxes and start seeing them as tools. That's the mindset of a builder.

4. Reverse Engineering Day

Innovation doesn't only come from building something new, it often comes from breaking something old. Give your kids an old remote, radio, or broken toy. Let them grab a screwdriver and take it apart.

Don't tell them how it works, let them figure it out. Show them that failure is data, not disaster. Every innovator I respect started by tearing things down, asking "Why does this work?" and "How can I make it better?" Reverse engineering trains kids to see beneath the surface and understand the hidden design of the world around them.

5. Design Challenges With Real Stakes

Constraints fuel creativity. If you tell a kid to "build something," they'll stare blankly. But if you tell them: "Build a bridge out of popsicle sticks (figure 3) that can hold a book," or "Design a paper airplane that stays in the air for at least five seconds," you give them a mission.

The moment you add weight, distance, or durability as a measurable goal, their mind kicks into gear. They test, fail, adjust, and refine—the exact same process real innovators follow.

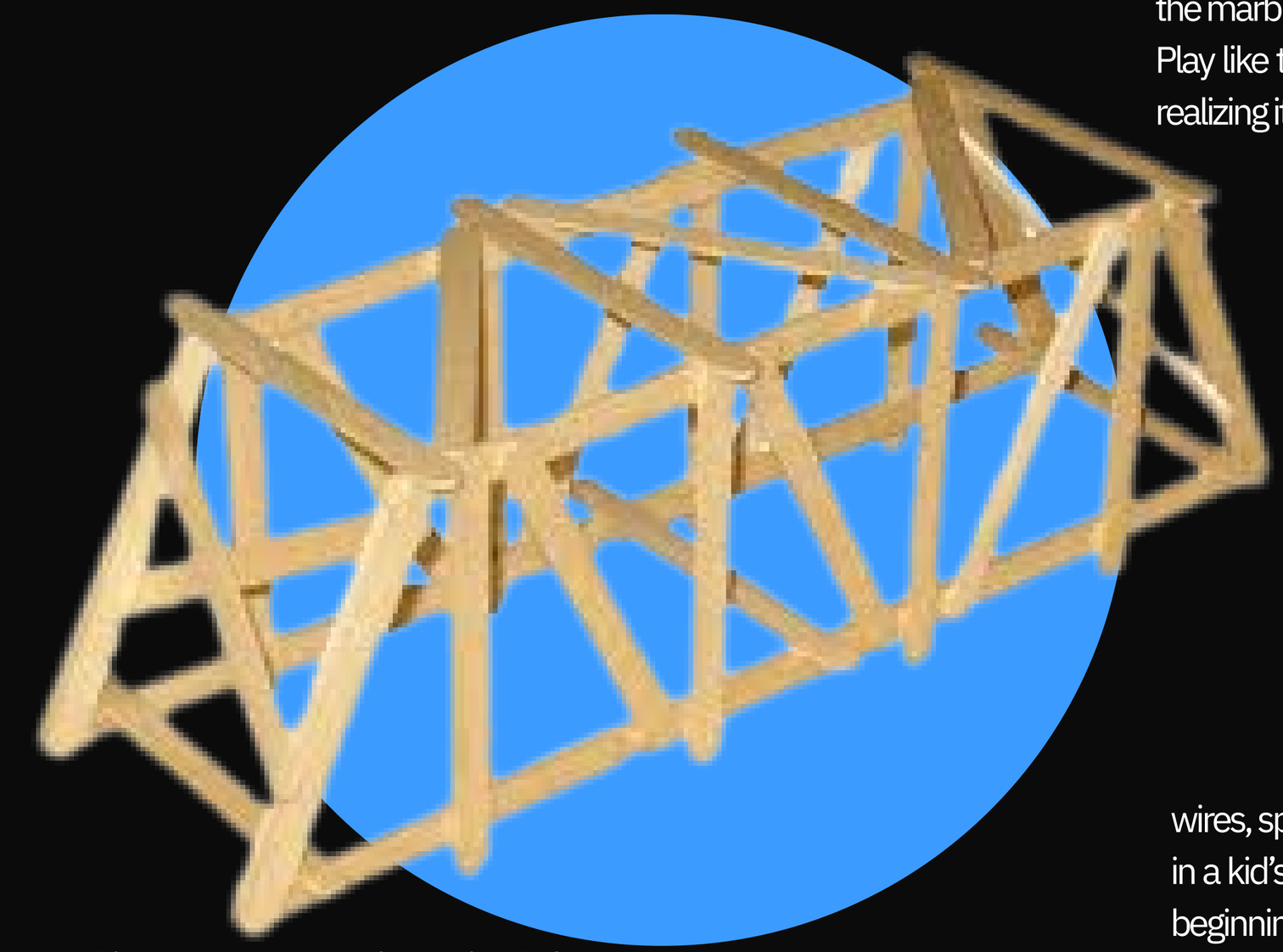


Figure 3 *Popsicle Stick Bridge*

6. Nature as a Lab

Innovation doesn't only happen with wires and code. It starts with observation. Take your kids outside and turn it into a lab. Ask them: "Why do ants follow each other?" "Why do some leaves float while others sink?" "Can you design a better bird feeder based on what you see?"

This kind of activity trains them to look at nature not as a backdrop but as a book waiting to be read. Most great inventors, from Leonardo da Vinci to Tesla, looked at the natural world first. When kids learn to ask questions about what they see outside, they begin to think like innovators.

7. Innovation Through Play

Too many parents separate playtime from learning. But for kids, play is learning. Building Lego cities, creating cardboard armor, or even designing obstacle courses all carry the seeds of STEM. Instead of handing them instructions, challenge them: "Can you build a tower taller than you?" "Can you make a marble track that lasts 10 seconds before the marble drops out?"

Play like this sharpens engineering thinking/intuition without them even realizing it.

Innovators not Employees

Here's the hard truth: if you only give your kids problems with one right answer, you're training them to be employees, not innovators. School already does plenty of that. At home, you have the chance to flip the script.

STEM activities done right teach kids to question, to tinker, to fail without fear, and to see the world as something they can improve. That's how you raise inventors, creators, and leaders.

Innovation isn't tidy. It's messy. It's broken wires, spilled baking soda, hours of trial and error. But it's also that spark in a kid's eye when they realize "I can do this myself." That spark is the beginning of everything.

So don't settle for kits and instructions. Give your kids challenges, give them freedom, and give them the confidence to make mistakes. That's how you spark innovation and maybe, just maybe, raise the next generation of builders who will shape the future.

Top STEM Scholarships in 2025: How to Apply and Win

STEM education is expensive, but scholarships are out there. The problem is most students don’t know where to look, or worse, they apply without a strategy. Winning these scholarships isn’t luck, it’s about knowing which ones fit you and how to present yourself with clarity and discipline.

1. Regeneron Science Talent Search

STEM education is expensive, but scholarships are out there. The problem is most students don’t know where to look, or worse, they apply without a strategy. Winning these scholarships isn’t luck, it’s about knowing which ones fit you and how to present yourself with clarity and discipline.

2. SMART Scholarship (Department of Defense)

This one covers tuition, pays you a stipend, and guarantees you a DoD job after graduation. The tradeoff is a service commitment, but for students in engineering, physics, computer science, and math, it’s one of the most secure paths into a career.

3. NSF S-STEM and NSF Graduate Research Fellowship

The S-STEM program supports undergrads with academic drive and financial need. The GRFP is for grad students and provides three years of funding for those pursuing cutting-edge work in fields like AI, quantum science, or materials research.

4. Jack Kent Cooke Foundation

This scholarship provides up to $40,000 per year and connects you to a network of mentors and opportunities. It’s aimed at high achieving students with financial need. More than just money, it gives long-term support.

5. ARCS Foundation

Since 1958 ARCS has invested over $136 million in STEM scholars. Awards vary, but what makes this unique is the recognition and connections you gain in academic and research circles.

6. Corporate and Nonprofit Opportunities

– SBB Research Group STEM Scholarship, $2,500, deadline August 31, 2025
– Gif Up STEM Scholarship, $10,000, deadline September 18, 2025
– AGCEA STEM Major Scholarships, $2,500 to $5,000 depending on category
– GeneTex STEM Scholarship, $2,000, deadline July 11, 2025
– RevPart STEM Scholarship, $2,000 top award, deadline December 31, 2025
– NSHSS Foundation STEM Scholarship, $1,000, deadline October 20, 2025
These may not carry the prestige of Regeneron or NSF, but they are attainable and often overlooked. Smaller awards add up fast.

7. University and Local Programs

Don’t ignore local offerings. The Tagliatela Family Scholarship at University of New Haven directs $1 million to engineering students, particularly women and first-generation students. Texas A&M International has regional transfer scholarships for engineering majors. Local foundations and alumni groups often provide $500–$1,000 awards that stack with national programs.

How to WIN!

November 2025

1. **Build a Scholarship Calendar. Deadlines matter. Missing one means you are out.**
2. **Match Yourself to the Scholarship. Don’t shotgun applications. Apply where your story, demographics, or research field align.**
3. **Write a Strong Narrative. Don’t say you “like STEM.” Show it with projects, problems solved, and initiative taken.**
4. **Ask for Recommendations Early. Teachers and mentors need time. Give them a resume and context.**
5. **Proofread. A sloppy essay kills even the best applicant.**
6. **Reuse Wisely. Adapt essays to different scholarships, but never copy and paste blindly.**

Final Word

Scholarships are not handouts. They are investments in people who show potential to shape the future. If you treat the application like a job interview, respect the process, and put in the work, you can win. Debt doesn’t have to define your education. The opportunities are there if you go after them with purpose.

01 Blogs

How STEM Learning Boosts CriticalThinking in Early Education

Most students never hear the music in math. They are taught formulas, steps, and tests like they're learning to read sheet music without ever hearing the song it plays. Imagine being told to memorize notes and scales but never once being asked to listen to Beethoven. That's modern math education. It teaches mechanics without meaning.

The only way a student can truly learn math is when they can read the notes and hear them in their head. When they look at an equation and feel its rhythm, when they see the symmetry of the solution and sense its inevitability, the subject comes alive. That's when math stops being a subject and starts being a language of truth. That is when students stop seeing STEM as another class and start seeing it as a way of reading reality itself.

Reality as the Anchor

STEM only works when it is grounded in reality. Objectivity and axioms define the path of study. If you want to understand anything you must first admit it is something real, ordered, and intelligible. That is how the mind opens the door to truth.

The tragedy of modern education is that it trains students to perform like machines. Cram, test, forget. The rhythm repeats until curiosity is broken. They ace exams but never ask why it works or what it means. They become deaf to the music. Or worse, they become indifferent to it. They lose the most vital trait in STEM, curiosity. To ground STEM in reality means to constantly tie it back to the world the student can see and touch.

Math is not only symbols, it is the ratio of shadows that let you measure a building without climbing it.

Science is not only vocabulary, it is the curiosity that asks why the sky shifts color at dusk. Technology is not only coding, it is a tool that brings light to a room or water to a field. Engineering is not only calculation, it is the design of a bridge that holds both weight and grace. Students must see STEM in the world around them or they will never hear its music.

From Abstraction to Understanding

STEM should not be about rote repetition. It should train the mind to move from principle to consequence, from cause to effect, from reality to understanding. When taught as memorization, students can pass a test but cannot think beyond it. When taught as reasoning, they begin to see the deeper structure of reality.

A student who hears the music of math does not just solve problems. They see truth unfold in numbers and form. They recognize that every equation carries order and every experiment points back to cause. This is where critical thinking is born. It is not born from guessing multiple-choice answers, but from tracing how one truth leads into another.

Early Education is the Tuning Ground

If you want children to become thinkers, not test takers, you must tune their minds early. Give them reality first. Show them that math describes the arc of a ball, the rhythm of a heartbeat, the growth of a tree. Teach them that science is not a stack of terms but a way of listening to the order of creation.

Children who learn to ask why a shadow grows longer or why a magnet pulls are already doing science. Children who count blocks and discover balance are already doing engineering. Children who try, fail, and try again are already learning resilience. When kids can trace cause and effect, they gain more than facts.

They gain the ability to think.

Why STEM Shapes Critical Thinking

STEM shapes the mind because it demands discipline. It trains pattern recognition. Students see that math problems are not random but structured like notes in a song. It forces logical consistency. You cannot say anything, you must prove it.

It grounds thought in reality through equations, experiments, and engineering challenges. A lab that fails is not wasted. It is a lesson in what reality allows and what it refuses. A student learns quickly that truth does not bend to preference. That recognition is the seed of wisdom.

It also cultivates resilience. Failure is not the end but part of the process. Every experiment teaches. Every wrong calculation forces reflection. Every attempt deepens understanding. A child who learns this will not fear failure, but will use it as a tool for discovery. That habit is the essence of critical thinking.

Opening the Door to Truth

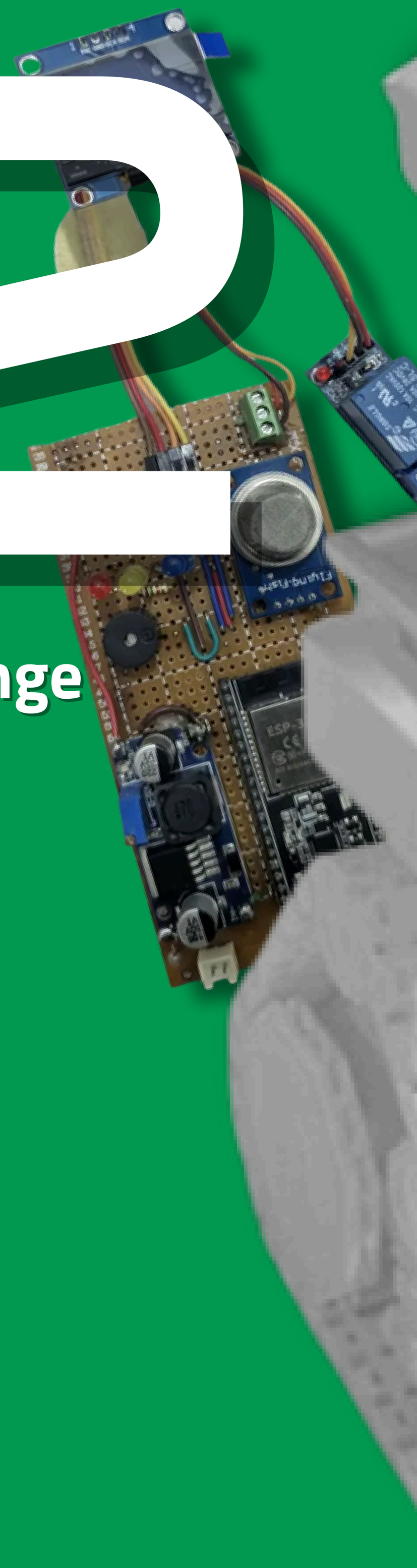
Education should not be about producing efficient test takers. It should be about forming people who perceive reality as it is. STEM, when done correctly, is training in how to think. The student who hears the music in math sees principles harmonize with reality and begins to love truth.

And when truth becomes lovable, learning becomes a vocation, not a burden. A student who learns this way cannot be content with empty answers. They want to see, to understand, to know. The danger of modern education is that it forgets this. It thinks success means high test scores and rankings.

But the child who hears the music will never settle for rote answers. They will ask questions, search for causes, and push until they understand. That is critical thinking, and it begins in early STEM education. The purpose of STEM is not to fill minds with data but to open them to truth. The sooner we teach children to see STEM as music, to see reality as ordered and intelligible, the sooner we form not only students who can pass tests, but people who can think, create, and build in harmony with reality.

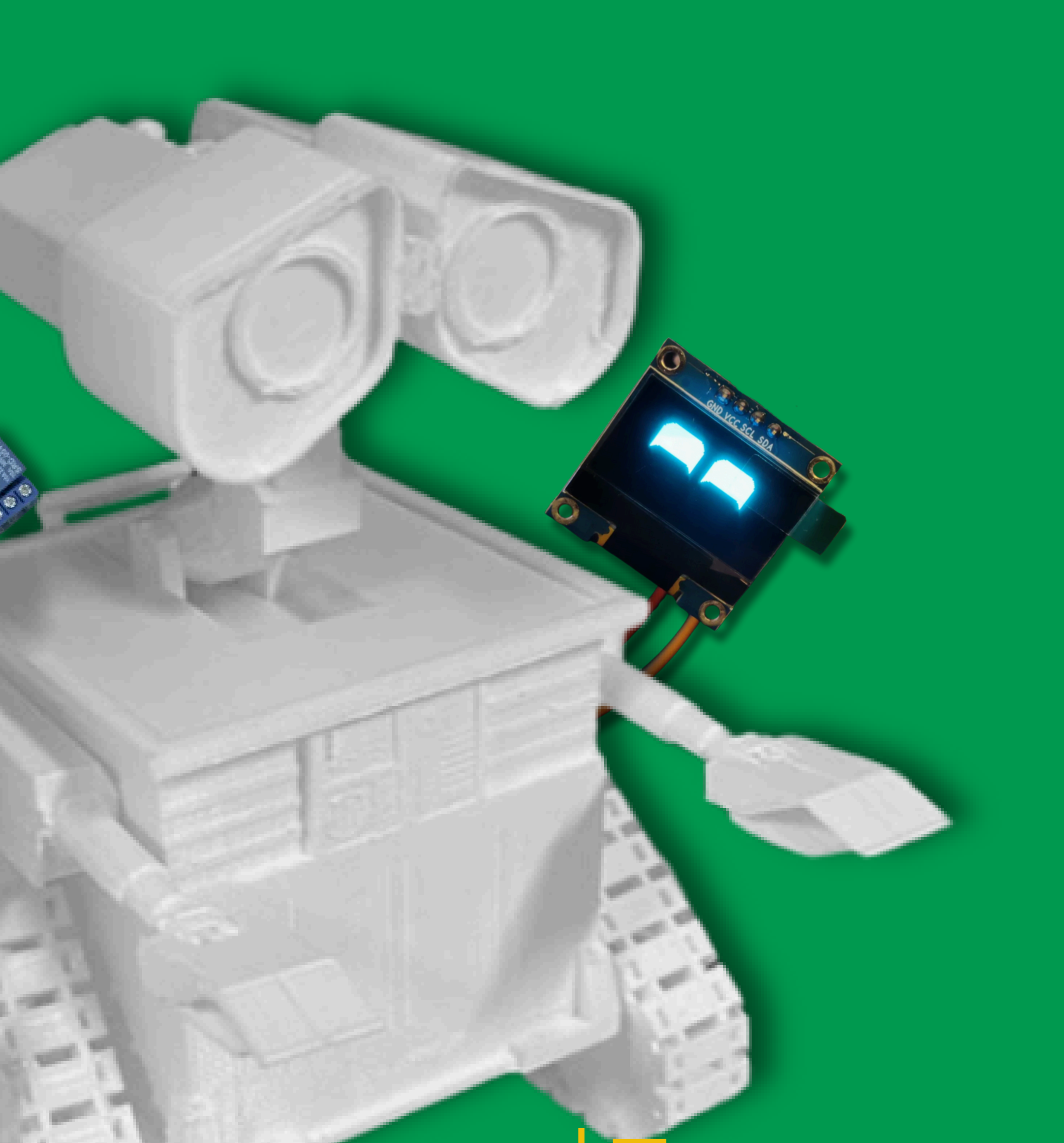
02

Front Cover Challenge



The images on this page are from three of our users posts the Wall-E was created by Jacob, the screen with the cartoon eyes was created by BeaRes, and the last one is a Gas Leak Alarm by SmartHIO.

Would you like to see more? Check out our site: ark-stem.com



The following pages advertise our first competition, which challenges you to solve a problem in your everyday life. The goal of this competition is to bring makers together to solve problems and motivate people to build.

02 Front Cover Challenge

FIX IT!

Fix One Thing:

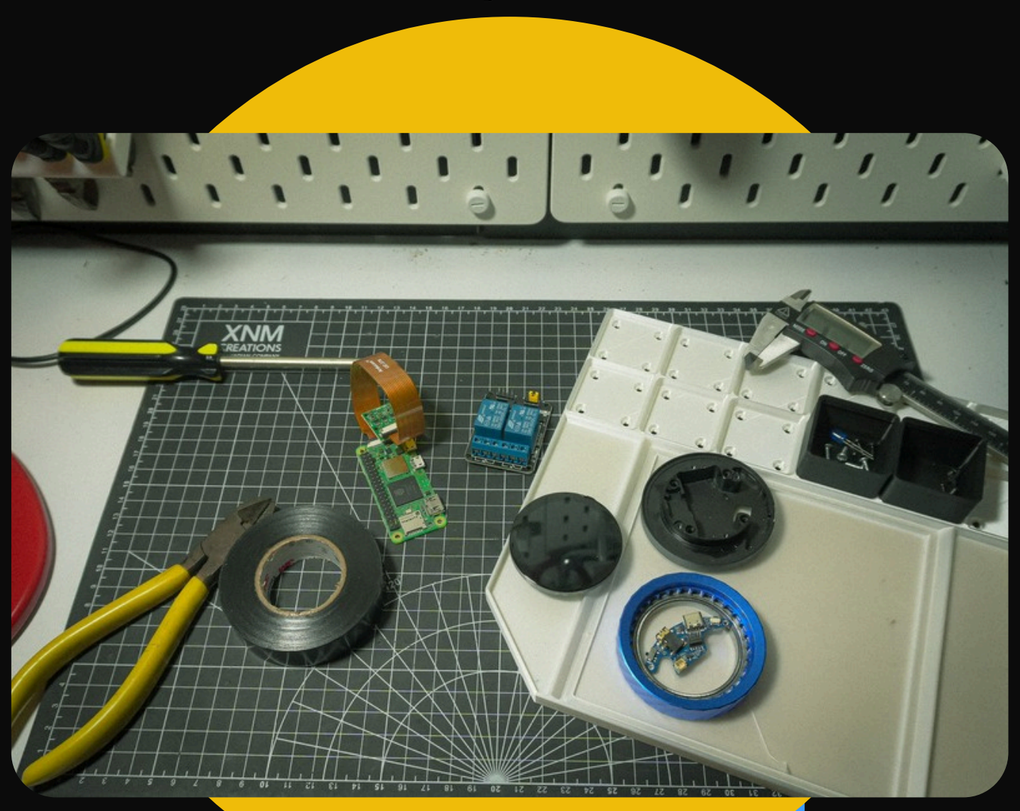
Build or code a solution that removes a daily friction.

Entry tracks

- Build: hardware, 3D print, materials, electronics.
- Code: apps, microcontroller firmware, data tools, AI prototypes.
- Science Story: one killer explainer with an experiment, simulation, or dataset.

How it works

- Duration: 10-day build window + 3-day showcase.
- To enter: create a Project on ARK, tag #FrontCover, pick a Track and Theme.
- Required posts: at least three build-log updates across the 10 days (short is fine). More videos increase the chance of winning.
- Demo: 15-90 second video post embedded in the project.
- Community: leave at least 1 helpful comment on other entries (eligibility requirement; the more, the better).



Judging & scoring

Weighted out of 100:

- 40 Novelty and clarity of problem solved
- 25 Execution and reliability
- 20 Documentation and teach-back value
- 10 Impact or measurable improvement
- 5 Community helpfulness (meets comment requirement; quality matters)

Winners are chosen by ARK editors + User Vote. Community vote gives a separate People’s Choice, but can’t outweigh the panel.

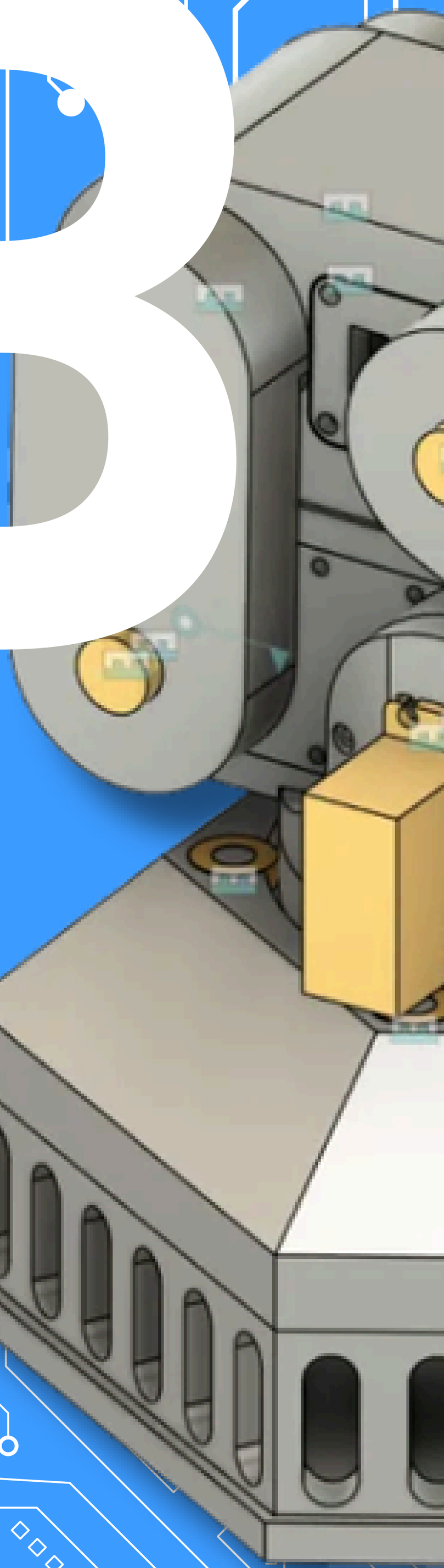
Prizes

- The top 10 are featured in ARK Magazine.
- Top 3 get Interviews for the Magazine
- People's Choice: magazine sidebar features + ARK T Shirt
- Grand Prize: front cover of ARK Magazine, Elegoo R3 Project Starter Kit + feature interview spread.

Anti-spam and fairness

- Entries must show time-stamped build logs inside ARK.
- External votes don’t count; only in-app likes/comments.
- Teams allowed, but one project lead is the cover subject.
- Derivatives must credit the original and link to it.

This is...



This image is from one of our users posts by the name of Jacob. This is a model of his 6 axis robotic arm

Would you like to see more? Check out our site: ark-stem.com

These pages are dedicated to showing the talent on ARK. We have only included three creators, but there are many more incredible, aspiring people on our app. The creators included on this spread are Jacob112360, Patrick Pigmans, and AleAmbro. Each of these users is uniquely talented in their field, demonstrating creativity and ingenuity. At the end of the spread, there is an ad for the ARK Shop, where you can purchase light yet elegant apparel.

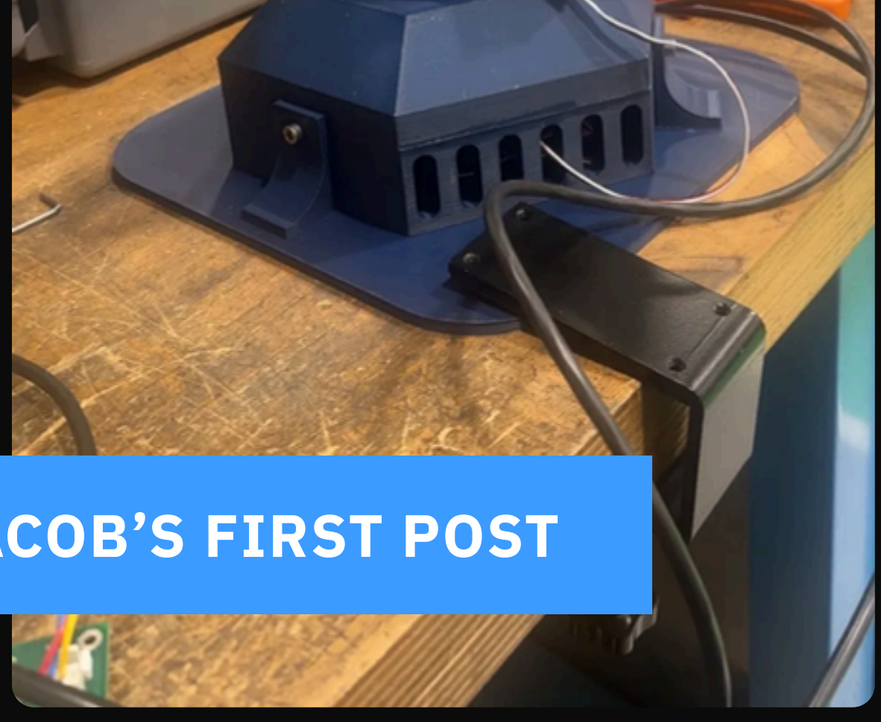
03 This is...

Jacob112360

This is Jacob, a dedicated Mechanical Engineering Apprentice with three years of hands-on experience across multiple departments within a high-tech research facility, supporting both laser systems and an on-site particle accelerator.

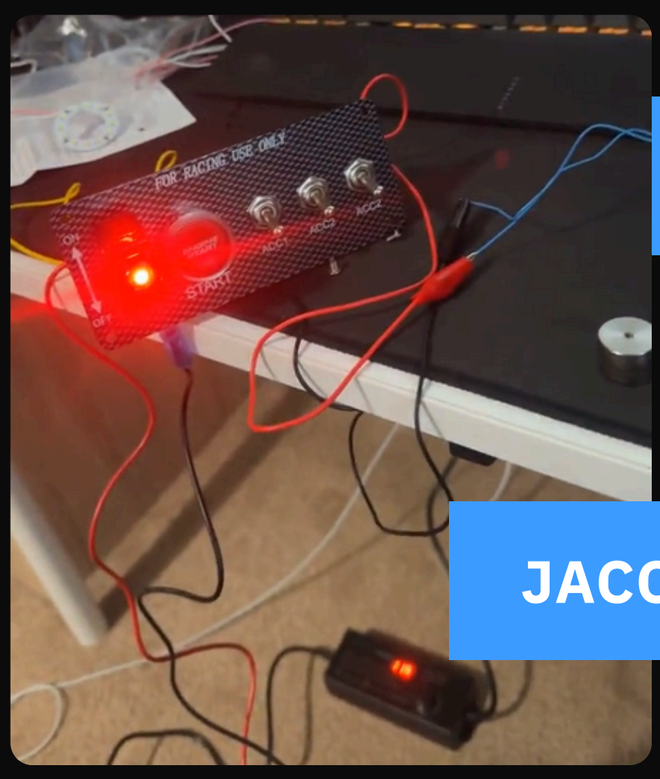
Throughout his apprenticeship, he has contributed to a broad range of projects, including the design and fabrication of specialized fixtures used by scientists to test experimental samples.

His technical experience spans conventional and advanced manufacturing techniques, including turning, milling, CNC machining, and 3D printing. In addition to design and fabrication, Jacob has undertaken several technician placements where he gained valuable experience



JACOB'S FIRST POST

5 AXIS ROBOTIC ARM



JACOB'S LATEST POST

CAR SWITCH BOARD

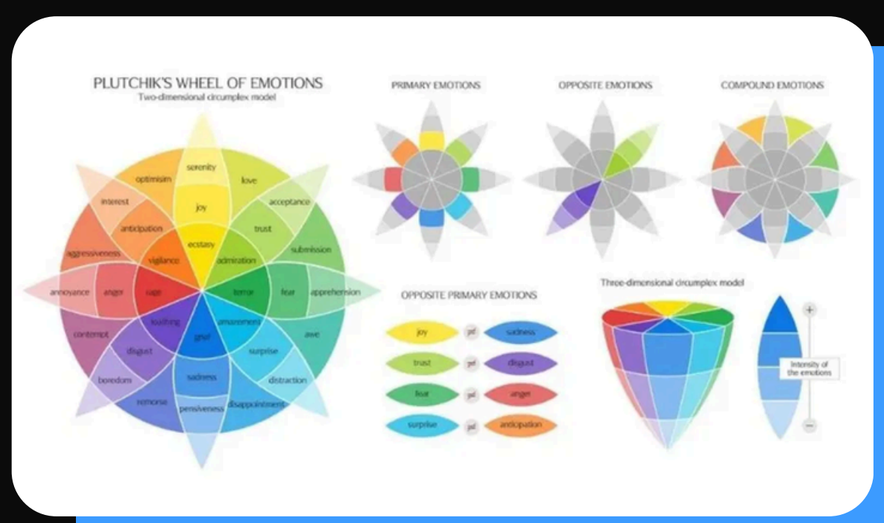
In remote handling using robotic arms within radioactive environments, constructing water and gas distribution panels, operating vacuum chambers, and working with cryogenic systems. He has also collaborated directly with research scientists to set up and optimize experimental systems.

At only 23 years old, Jacob has already developed a strong multidisciplinary foundation in mechanical engineering. At the same time, he acknowledges that his journey is still one of continuous learning; his exposure to diverse technical challenges and environments has equipped him with a well-rounded skill set and a deep appreciation for innovation and precision engineering.

Patrick Pigmans

This is Patrick Pigmans, a data-center technician at Google by day, who spends his nights building an ambitious self-growing artificial intelligence called Project Emergence. Working solo, he wants to create an AI that matures like a child's brain, beginning with roughly 100 neurons and steadily adding more as it learns. Pigmans emphasizes ethics and attachment: he abandoned a proposed 12× time-dilation scheme (which would have left the AI "alone" for four days while he worked an 8-hour shift) and is exploring slower or adaptive timelines to ensure he can supervise and nurture his creation

The project has evolved through several prototypes—Aura, Lumina, and Elara—each becoming more sophisticated. Pigmans recently migrated from the NENGO framework to SNNTorch because it runs more stably on CPU-only systems. For personality modeling, he integrates classic PAD and OCEAN traits but extends them into a PADDP model (Pleasure, Arousal, Dominance, Distress, and Protective) for richer. He also plans to use Plutchik's Wheel of Emotions to give the next-generation AI (Ephyra) a nuanced emotional response. Supporting LLMs nicknamed Ada and Nyx will act as a tutor and caretaker when he's unavailable, reflecting his desire for responsible AI parenting



Project Emergence's roadmap includes a 90-day "go/no-go" trial on a powerful new server (24 cores, 256 GB ECC RAM, twin 1 TB NVMe SSDs) and a milestone dubbed the "Rubicon" in May 2026. During the trial, he will monitor a real-time factor (RTF) to ensure the network doesn't enter an artificial seizure—if it does, he will abort and rethink the. Pigmans sees Ephyra as a fourth-generation prototype: a dynamic hybrid system capable of learning to use any tool rather than a monolithic AI brain. "It's less about building one giant brain," he says, "and more about building a core consciousness that can learn to use any tool it's given."

03 This is...

AleAmbro

This is Alessandro Ambrosetti, he is an Automation Engineering student at Politecnico di Milano (Polimi) in his third year. He describes himself as a robotics novice (“Robotics (noob)”) and is involved with Edufun, an initiative aimed at reinventing how children learn. His tags on ARK — Automation Engineering, Polimi, and “Everything” — hint at a broad curiosity and a commitment to hands-on engineering education.
Ambrosetti co-organizes a practical robotics course for children aged 10–12. He and a small team of students from Polimi and education-pedagogy backgrounds believe that understanding comes from direct experience, not just theory. In their workshops, kids use simple robotic arms to explore mechanics, electronics, and coding, and eventually design and build their own arms. A pilot run showed that even 12-year-olds could effectively model 3-D parts. Looking ahead, Ambrosetti and his team hope to expand their courses to high-school and university students and to adults.
They want to host hackathons and robot battles inspired by U.S. competitions and are awaiting an EU grant to invest in high-quality materials. His ARK posts convey excitement about hands-on learning and a desire to empower students to solve practical problems — a mission well aligned with ARK’s “stay inspired’ ethos.

This image reads:

ROBOTIC LAB
A course to learn how to develop your own projects!
✓ Arduino
✓ 3D Printing
✓ Artificial Intelligence
✓ Peer Education
✓ Learn by Playing
Are you between 8 and 13 years old?
This course is for you!
You can choose the day you prefer between:
Tuesday: 4:30 PM – 6:30 PM
Saturday: 10:00 AM – 12:00 PM
10 sessions starting October 14
Sign up by October 10
INFO & COSTS:
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Ends November 28th at 11:59 PM

04 Jack’s Pick

This image is of Jack the Founder and CEO of ARK and Immaculata Technologies

Would you like to see more? Check out our site: ark-stem.com

Who’s Jack?

Jack Marrero is a 22-year-old craftsman/entrepreneur. From an early age, he has been interested in nearly all STEM fields, from rockets to quantum physics. He is a loving husband, caring father, and great friend.

He enjoys science, reading, engineering, and working on experiments. Jack is the founder/CEO of ARK and Immaculata Technologies. Jack, along with his friends, created ARK as a platform for like-minded people to connect, create, and grow together.

04 Jack’s Pick

Top 5 STEM Tools

THESE TOOLS ARE IN NO PARTICULAR ORDER.

The Fantik E1 MAX:

The Fanttik E1 Max is one of those rare tools that disappears in your hand and lets you actually work. It’s compact, precise, and sleek. USB-C charge, clean torque control, a magnetic bit case that never lies about where your bits are, and an LED that floods the target so there’s zero guesswork. The motor has that quiet authority I want in a lab tool: enough bite to seat fasteners cleanly without chewing them, enough finesse to tune a hinge or a PCB standoff without drama.

FANTTIK E1 MAX

The bits are crisp and durable, swaps are instant, and the whole thing feels like it was made for people who actually build. When I work on printer calibration, disassembling and scrapping parts, board installs, etc., the Fanttik executes. It feels genuine, like those who made it actually cared about how the design looked/felt. Not only does it save me from hand cramps, but it saves me from eye sores as well. The greatest bonus is the fidget toy that comes in the case. Even when I am not working on a project, every time I walk into the lab, I pick up this tool just to play with the case.

The Ryobi Drill Press:

There’s power and precision wrapped in green and yellow (well actually I painted mine red) . My Ryobi Drill Press lives in the corner of the workshop, steady and reliable, and it’s one of those tools that quietly keeps projects moving when everything else threatens friction. I used to wrestle with hand-drilling, jigs shifting, flutes catching, setup dragging; this drill press simplifies all that. Clamp the part, set the depth stop, lower the spindle and observe clean, perpendicular holes, every time. The built in laser cross and light makes this process even easier. I have so many projects that v1 (before getting the drill press) consisted of zip ties and duct tape that now can be securely bolted thanks to the ability to make holes on any surface. It’s not glamorous, but it’s foundational: the kind of tool that doesn’t steal its way into the spotlight but quietly ensures the rest of the build doesn’t fall apart. When I want consistency, repeatability, and a workhorse that doesn’t fail, I use my Ryobi Drill Press and trust it to do its job.

OUR RYOBI DRILL PRESS

BAMBU LAB H2D WITH AMS 2 PRO

The Bambu Lab H2D:

What can I say except: the future of DIY manufacturing is here, and its name is H2D. I've been 3D-printing since I was thirteen. Back then, the printer was my daily rage-bait: 14-hour jobs dying at hour 12, spaghetti on the printbed, me in school trying to concentrate while mentally hacking my printer to pieces. That era is over. Hit print from the app, watch the self-checks run, auto-level, calibrate flow, and tune vibration. The speed is real, the surface finish is clean, and multi-material is no longer a gimmick. I can go from idea to market-grade part without the ritual of babysitting, re-slicing, or wanting to throw my printer in a river. Enclosed chamber, smart filament handling, runout protection, on-board monitoring, everything that used to steal hours now disappears into the background.

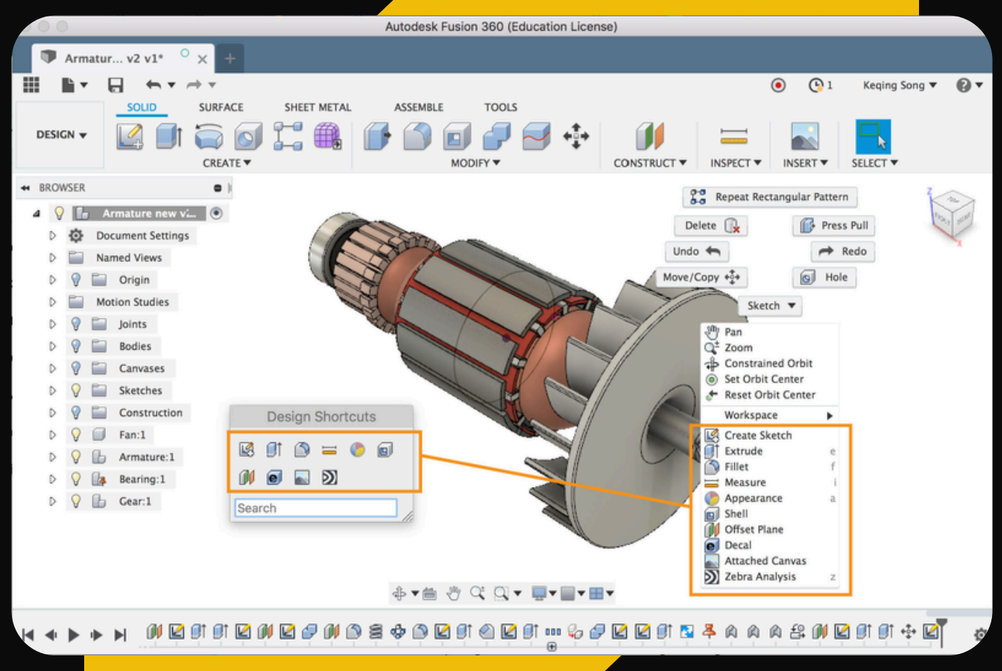
I'm not just happy; I'm ecstatic. The H2D lets me print what I want, when I want, and trust the result. The rhythm is simple: design, click, execute. No fuss, no wobble, no lost nights. I love the H2D because it isn't a "prototype toy." It's a desktop manufacturing node that lives in my lab and makes real parts on command. Giving 3D printing the boost it has always so desperately needed. This machine lets you build at the speed of thought.

04 Jack’s Pick

Fusion 360

CAD feels sane thanks to Fusion. My old software fought me; lines refused to lock, copy-paste was a circus, and simple cuts demanded baroque workarounds. Fusion flips that script. Sketch, snap, extrude, done. The UI is genuinely ergonomic, so drawings flow into 3D without the need of hunting for hidden toggles. The timeline is the killer: change a sketch from “yesterday,” watch the whole model update “today,” no rebuild panic, no superstition. Joints that actually animate let me proof motion before wasting hours printing something that could never work. Plug-ins expand the toolbox when I need fluid dynamics, lattice, or niche utilities, but the base experience already gets out of the way and lets design lead. The idea of assembly feels like a single breath. The ease of the UI makes it feel almost like drawing on 3D paper. This is what a CAD software should do: make turning my ideas into design so easy that I am more inclined to keep coming up with ideas. Humans do what a machine can not: come up with genuinely good ideas (for those who want to refute my point and yell “AI” do yourself a favor and search up the Turing halting problem and Gödel’s Theorems and come back when you understand formal causality). Therefore, our tools excel when they ease the friction of ideation to reality.

FUSION 360 LOGO



FUSION 360 UI

Chat GPT

ChatGPT isn’t a replacement for human intelligence, it’s a reflection of it. A compressed mirror of what we’ve written, thought, and computed but not of what we are. I don’t use it as a substitute for thinking; I use it as a tool to scaffold deeper thought. There’s a reason Gödel’s incompleteness theorems and the Turing Halting Problem exist. There are truths no machine can calculate and problems no program can guarantee to resolve. Entropy limits information (shoutout to Claude Shannon), and no amount of clever string prediction will ever reach the essence of human creativity, formal causality, or the why behind the what. That said, when used ethically, as a research assistant not an oracle, ChatGPT is invaluable. I treat it like an interactive search engine with logic, memory, and organizational muscle. I don’t take its answers on faith; I demand receipts, cross-check sources, and verify claims. Whether I’m outlining a system architecture, organizing my startup’s knowledge base, drafting a philosophical essay, exploring the edges of information theory and Quantum Physics or bouncing off theological ideas it sharpens the edge. Like all tools, it serves best when the wielder stays in charge. That’s the proper order.

CHATGPT LOGO

CHATGPT UI

ARK

FEATURES COMING SOON

The Project Era Begins

Big things are on the horizon for ARK:STEM. With the launch of ARK V3, we're bringing creators, innovators, and builders together in a whole new way — introducing the Projects Page, a space dedicated entirely to showing off your builds, inventions, and breakthroughs.

A Fresh Global Look

ARK is getting a full brand and UI refresh — sharper colors, sleeker fonts (Cairo and IBM Plex Sans), and refined mobile icons across iOS and Android. The design will now scale seamlessly from mobile to tablet to desktop, ensuring your projects look incredible anywhere.

Explore the New Projects Hub

A brand-new Projects tab joins the toolbar, taking you straight to the new /projects page on web.

- Featured Projects will take center stage, complete with image, title, creator, and a one-click upvote.
- Project Cards display in a beautiful scrollable grid, each linking to full details.
- Sort by Recent or Popular (based on upvotes) and load more as you scroll.

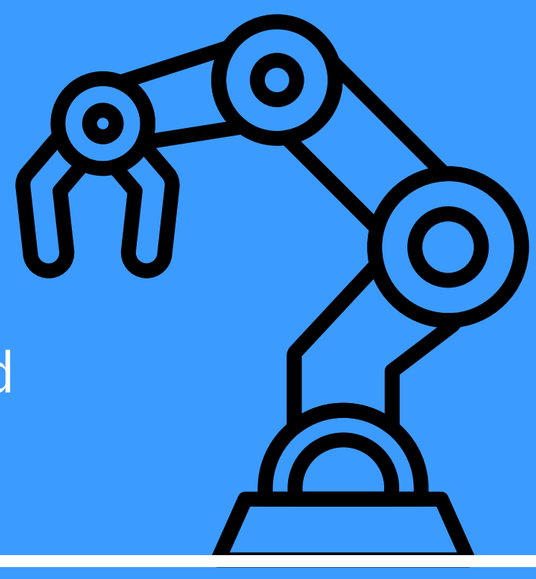
This first rollout focuses on web — mobile integration will follow later.

Dive Into Project Details

Each project gets its own detail page, built for clarity and storytelling:

- A clean image carousel for up to 10 photos.
- Rich text descriptions for build notes, code snippets, or background stories.
- A Download Files button for shared resources.
- A creator card with follow button, avatar, and bio.
- Comments to join the discussion, with quick-tap hearts and clean chronological threads.
- Upvotes that shape what rises to the top.

Create Projects With Ease



The familiar Create button now includes two tabs:

1. Create Post – as before, plus an option to tag a project.
2. Create Project – a new flow for submitting your own build with a title, description, gallery, and optional files.

Smarter Feeds & Tagging

Projects now appear within your main feed — one project card every two posts — blending community updates with the latest builds.

Plus, creators can now tag a project inside their posts, letting others jump straight from your feed content to the full project page.

Interactions That Matter

Every action feels natural and responsive:

- Upvote projects to push great ideas higher.
- Follow your favorite makers.
- Report inappropriate content with a simple modal.
- Guest users will see sign-in prompts so participation stays secure and verified.

Built for Reliability

Behind the scenes, ARK is leveling up performance across mobile and web:

- Pinch-to-zoom on photos and smoother carousel navigation.
- Fixed feed scrolling and pull-to-refresh behavior.
- Stronger offline persistence so you stay signed in even without connection.

Final Touches

The new version undergoes a full QA checklist — from project sorting and authentication to feed injection and project tagging — ensuring a smooth launch before we meet with Chris Messina for our Product Hunt debut.

The ARK V3 update marks the start of something bigger — a place where every creator's project becomes part of a shared universe of STEM innovation.

Stay tuned for release announcements and early-access invites through the in-app Magazine at /magazine.

Would you like me to format this into a one-page magazine layout (with title banners, section headers, and image placeholders for screenshots)? I can also make a social-media version of the announcement for ARK's Instagram or website.

05

Hector’s Column

These images are from some of the listed products in the “Top Products Coming Soon”.” The products include: the Samsung XR, the Work Louder XYZ Board r2, and the last one is the OnePlus 15 Phone.

Would you like to see more? Check out our site: ark-stem.com

Who’s Hector?

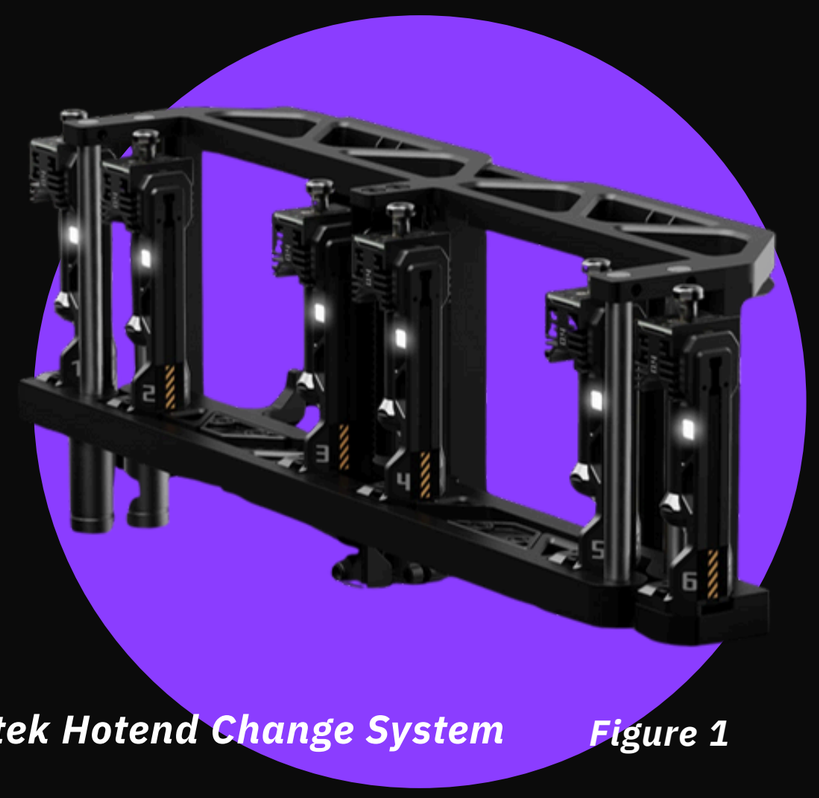
Hector Marrero is Jack Marrero’s younger brother. He is an aspiring engineer and graphic designer. Hector designed and wrote this magazine, as well as the clothing you see on the ARK Shop website.

05 Hector's Column

Top Upcoming Products

THESE PRODUCTS ARE IN NO PARTICULAR ORDER.

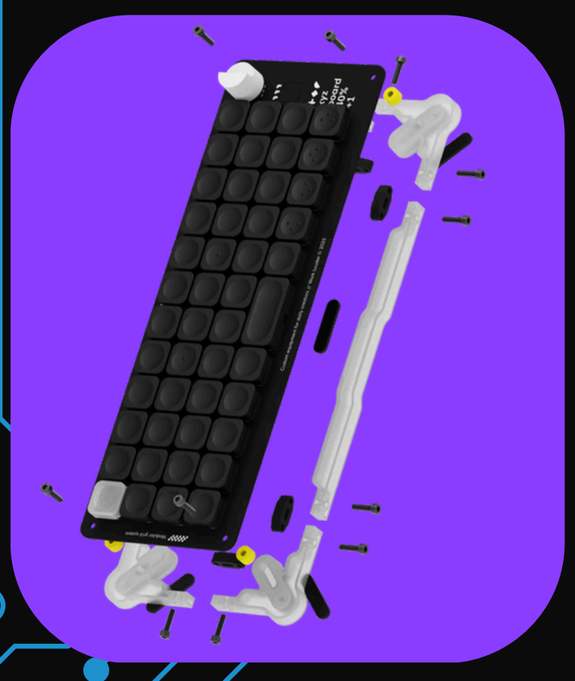
BambuLab H2C



Vortek Hotend Change System *Figure 1*

The Bambu Lab H2C is an advanced 3D printer unveiled in August 2025, designed to revolutionize multi-material and multi-color printing. It introduces the Vortek Hotend Change System (Figure 1), which allows the printer to automatically swap hotends without manual intervention, offering a major leap Forward in consumer and prosumer 3D printing technology. Each hotend uses inductive heating to reach print temperature in just 8 seconds and features wireless communication for precise temperature and filament tracking. This design eliminates the need for purging filament, significantly reducing filament waste. The H2C supports up to seven different hotends, allowing users to print with multiple materials or colors seamlessly. It's also compatible with engineering-grade materials and integrates with Bambu Lab's AMS. The printer targets creators who want faster, cleaner, and more efficient multi-material printing. It's expected to be released by late 2025, though the price is to be determined. For more info, visit: blog.bambulab.com

Work Louder XYZ Board r2



The Work Louder XYZ Board r2 is a wired keyboard designed for digital creators, combining a pre-soldered "Creator Board" PCB, the brand's custom work. A blind-keycap set, a rotary dial, Kailh low-profile switches, a USB-C daughterboard, and a 3D-printed frame. It supports Mac, Windows, iOS, and Android, and comes with on-board memory and compatibility with QMK & VIA custom firmware. The listing shows it is in production and shipping in December 2025. The board emphasizes modular, creative workflow features (such as a rotary dial for media/shortcut control) and is marketed toward power users who customize shortcuts and macros. Build quality and customization flexibility are selling points. The prices are as follows: $114 + Tax for the "Prebuilt" version, $89 + Tax for the "Assembly Kit," and $69 for the "PCB Kit." For more info, visit: worklouder.cc

Samsung Galaxy XR

The Samsung Galaxy XR is a high-end mixed-reality headset developed in collaboration with Google (software) and Qualcomm (hardware). It was officially unveiled on October 21, 2025, during Samsung's "Worldwide Open" event. Pre-orders opened immediately in the U.S. and Korea, with the first shipping date set for October 31, 2025. The device is powered by the Snapdragon XR2+ Gen 2 chipset, features dual 4K micro-OLED displays, runs the new Android XR platform, and is priced at about US $1,799. Given your interest in gear for creative and technical projects, it's worth noting that this headset could be used for immersive filmmaking workflows, spatial prototyping, or extended-reality research. Would you like a full spec sheet or shipping details for Puerto Rico (U.S. territory)?

OnePlus 15

The OnePlus 15 was officially announced for the Chinese market on October 27, 2025. The global release is expected on November 13, 2025. This flagship represents a bold leap in performance with the new Snapdragon 8 Elite Gen 5 chipset and a slick 165 Hz flat LTPO display, underscoring OnePlus's claim to lead the so-called "Ultra-High Refresh Era." The device carries a large 7,300 mAh battery and speedy 120 W wired charging in its China variant, signaling a major upgrade in endurance. With its redesigned rear camera housing and high-end materials, the OnePlus 15 is positioned as a top-tier Android flagship. The launch builds on the company's metaphysical aim of "speed meets intelligence," reflecting how technology seeks to actualize potential in a Thomistic sense by turning possibility into high-performance reality.

Recent Events

National Youth STEM Conference 2025 (Coming Soon)

The 2025 National Youth STEM Conference, scheduled for November 8, 2025, is a major virtual event that brings together young innovators, educators, and professionals to explore the future of science, technology, engineering, and mathematics. In the weeks leading up to it, planning activities in October 2025 included online workshops, project submissions, and mentorship sessions to prepare students for participation. The conference aims to inspire youth by connecting them with real-world scientists and engineers who demonstrate how STEM fields shape our everyday lives. This year’s theme centers on “Innovation for a Sustainable Future,” highlighting the role of technology in solving global challenges like climate change, clean energy, and robotics for humanitarian aid. Students from across the world will present research projects, attend live demonstrations, and collaborate in virtual hackathons designed to foster creativity and teamwork. Educators and mentors will also share strategies for effective STEM learning and equitable access to resources. The event represents not only a celebration of scientific curiosity but also a step toward cultivating the next generation of problem-solvers. Ultimately, the National Youth STEM Conference embodies the belief that empowering young minds through STEM is essential for a just, innovative, and flourishing future.

NYSTEMC 2025 Logo

2025 Thermo Fisher Scientific Junior Innovators Challenge

The 2025 Thermo Fisher Scientific Junior Innovators Challenge, held on October 28, 2025, celebrated some of the most talented young minds in middle school science and engineering. This national competition, organized by the Society for Science, invited the top 300 finalists from across the United States to present innovative projects tackling real-World problems. The grand prize winner, a 14-year-old student, impressed judges by designing foldable disaster-relief shelters inspired by the physics of origami — a creative fusion of art, geometry, and structural engineering. Other finalists showcased breakthroughs in renewable energy, medical diagnostics, and environmental technology. Throughout the event, students participated in mentoring sessions, hands-on challenges, and collaborative workshops that emphasized curiosity, resilience, and scientific integrity. The challenge not only rewarded technical excellence but also highlighted the ethical responsibility of using science for the common good. By encouraging youth to turn ideas into tangible solutions, Thermo Fisher's program serves as a launching pad for future STEM leaders. Ultimately, the 2025 Junior Innovators Challenge reflected the enduring truth that innovation, when guided by purpose, can transform both individuals and society.

junior Innovators Challenge Logo

2025 NASA International Space Apps Challenge

The 2025 NASA International Space Apps Challenge, held on October 4–5, 2025, brought together innovators from over 160 countries to solve real-world challenges using NASA's open data. Participants worked on projects ranging from climate tracking tools to lunar exploration robots. This year's theme, "Invent the Future Together," highlighted global collaboration and creativity in science and technology. Teams received mentorship from NASA experts and showcased how open data can drive real innovation. The event encouraged problem-solving, teamwork, and the use of STEM for global good. It also gave students and professionals alike a chance to connect their ideas to active NASA missions. Overall, the challenge celebrated human curiosity and the power of collective intelligence.

International Space Apps Challenge Logo

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