

AI Pathways: Connecting Learners, Colleges and Careers for Economic Mobility

Moderator:

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SREB



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Chemistry at UNC
Charlotte and Vice
President of the
International Society
of RNA
Nanotechnology and
Nanomedicine



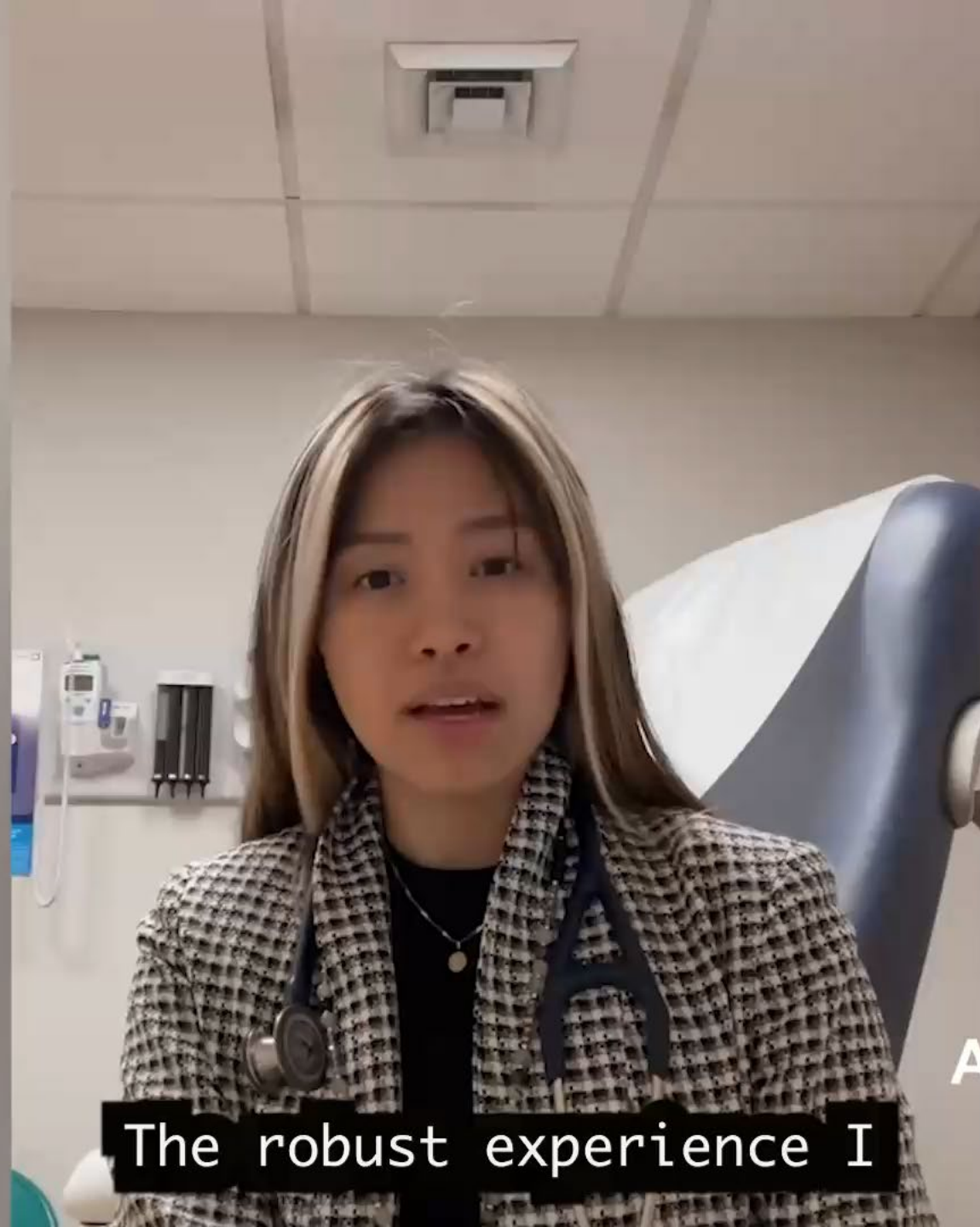
Steven Ferguson
Principal Research
Scientist
Deputy Director,
Georgia Tech
Manufacturing Institute
Managing Director,
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Director, US MIMETAS

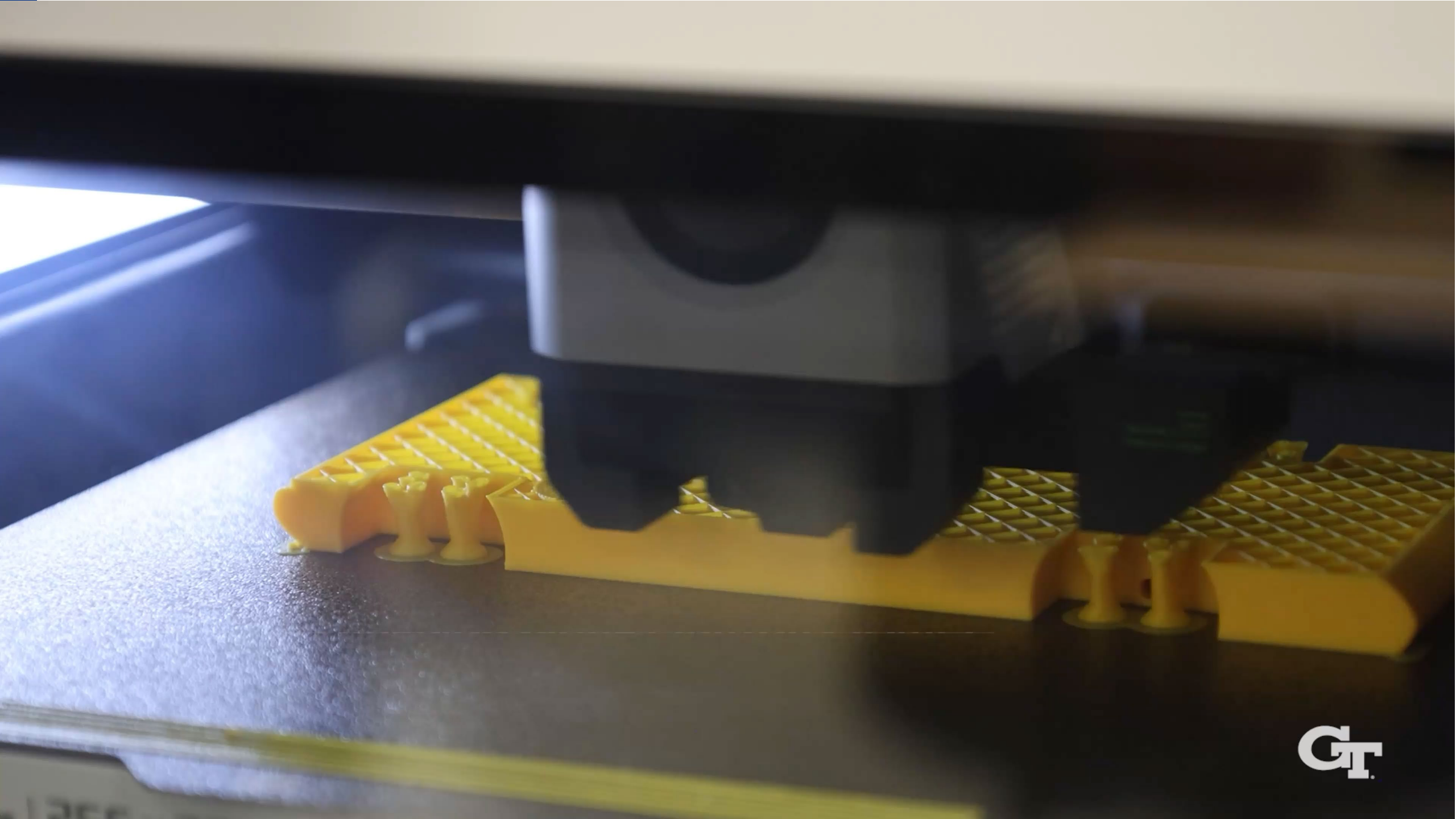


Joe Little
Associate Dean of
Technology,
Technology Division
*2025-2026 Zeiss Staff
Award Winner*
Central Piedmont
Community College



The robust experience I

Ally Tran, MPH, PA-C
Physician Assistant
Primary Care





Pathways to Student Success Artificial Intelligence Panel



How AI is Transforming Education Pathways

Shift from degree 1st to skills 1st preparation

- AI is accelerating a model where employers increasingly value:
 - Demonstrated skills
 - Industry certifications
 - Project portfolios
 - Work-based learning experiences
 - Micro-credentials

Personalized learning powered by AI tutors

- AI acts like a personalized tutor that can:
 - Identify knowledge gaps
 - Create individualized learning plans
 - Adapt content difficulty
 - Provide instant feedback
 - Generate practice exercises

Career AI Tools using live labor market data

- Students can now use AI tools to:
 - Explore careers
 - Compare salaries
 - Analyze labor market trends
 - Understand required skills
 - Simulate workplace tasks

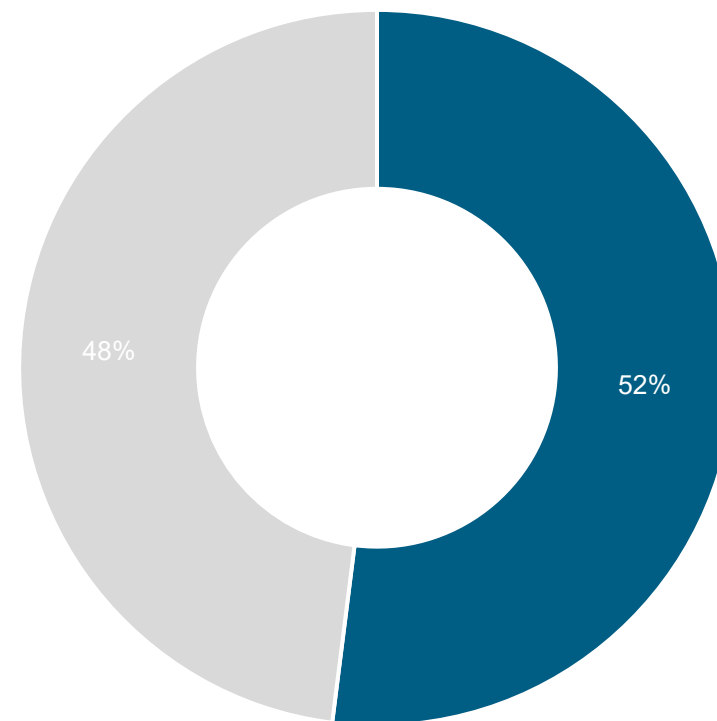
Upskilling is replacing one-time Ed Models

- AI is accelerating change so quickly that workers must continuously upskill.
 - Rather than a one-time educational experience, the emerging pathway becomes:
 - **Learn → Work → Upskill → Work → Reskill → Advance**

Skills are replacing degrees in hiring

52%

U.S. job postings, Jan 2024



of U.S. job postings no longer list a degree requirement

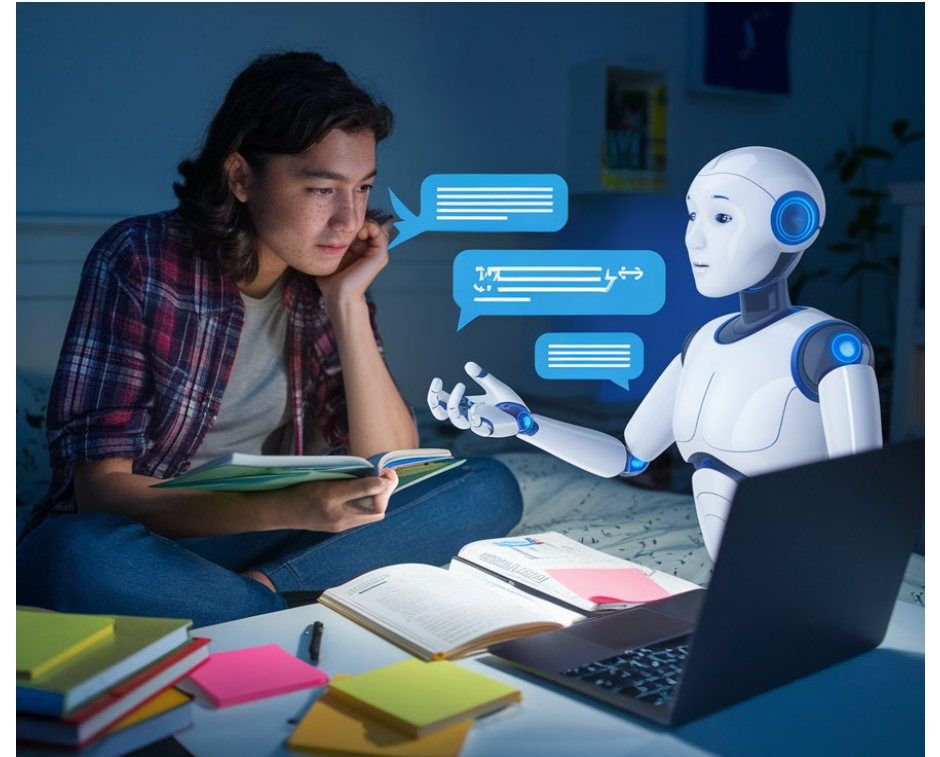
Up from 48% in 2019. Only 17.8% of postings now require a bachelor's.

■ No degree requirement ■ Any education listed

Source: Indeed Hiring Lab, "Educational Requirements Are Gradually Disappearing From Job Postings," Feb 2024

AI gives every learner a personal tutor

1-to-1 personalized instruction, once a luxury, is now available to every student



Sources: Benjamin Bloom, "The 2 Sigma Problem," 1984; recent AI-tutoring research from Khan Academy, Carnegie Learning, and others

Careers are no longer linear



Workers will move through learn–work–upskill cycles many times across a career!

Source: World Economic Forum, Future of Jobs Report 2023

Workforce Expectations are Influencing Education Pathways

Greater emphasis on Human Skills

- As AI automates routine tasks, employers increasingly value:
 - Critical thinking
 - Creativity & Problem solving
 - Communication & Teamwork
 - Leadership & Adaptability

Increased Demand for Technology Careers

- AI is creating demand for roles such as:
 - Artificial Intelligence & Machine Learning Engineers
 - Cybersecurity Analysts
 - Network & Cloud Infrastructure Engineers
 - Software Developers, Full Stack Developers, DevOps

Industry Certifications have more value

- AI Credentials with high market value:
 - CompTIA AI Essentials, AI Prompting Essentials
 - Microsoft Azure AI Fundamentals
 - Amazon AWS Machine Learning Engineer
 - Google Machine Learning Engineer
 - NVIDIA Generative AI LLMs

Community Colleges Become More Important

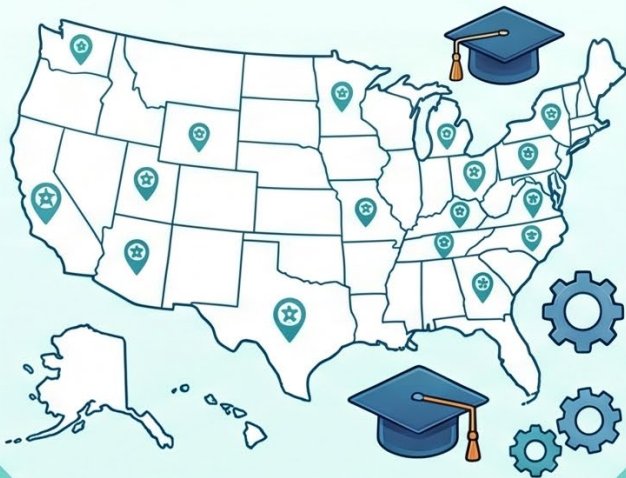
- Institutions like community colleges are particularly well-positioned because they can:
 - Rapidly update curriculum
 - Offer industry certifications
 - Partner with employers
 - Provide affordable pathways
 - Respond quickly to workforce needs

Community colleges are leading AI workforce training

COMMUNITY COLLEGES
TEACHING APPLIED AI

337

COMMUNITY COLLEGES
ACROSS 49 STATES



FACULTY TRAINED

1,900+

FACULTY TRAINED
AND CERTIFIED



STUDENTS REACHED

50,000+

STUDENTS REACHED
IN PROGRAMS



Source: National Applied AI Consortium (NSF-funded), reported 2024–2025

MIMETAS

Connecting Learners, Colleges, and Careers for Economic Mobility

Morgan Halman

• 06 Jun 2026

Southern Regional Education Board

Grow. Learn. Discover.



Building A New Skillset for Scientists

A BILL

To allow for alternatives to animal testing for purposes of drug and biological product applications.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

FDA NEWS RELEASE

FDA Announces Plan to Phase Out Animal Testing Requirement for Monoclonal Antibodies and Other Drugs

For Immediate Release: April 10, 2025

E.P.A. Promises a Ban on Animal Testing by 2035

Today, the U.S. Food and Drug Administration is taking a groundbreaking step to advance public health by replacing animal testing in the development of monoclonal antibody therapies and other drugs with more effective, human-relevant methods. The new

Tuesday, April 29, 2025

to prio
iative aims

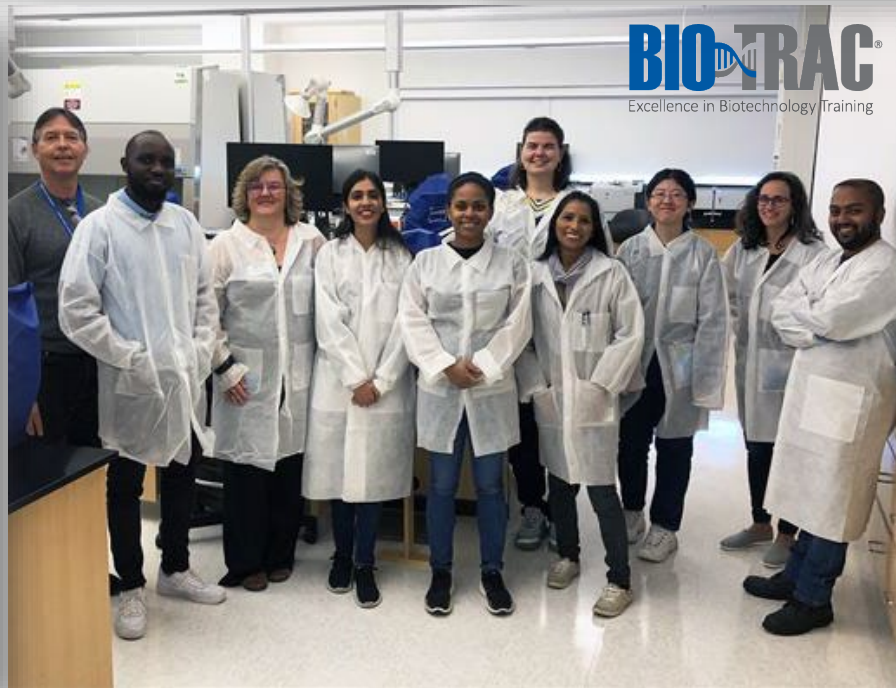
Wednesday, March 18, 2026

NIH invests \$150 million in human-based research to reduce use of animal models

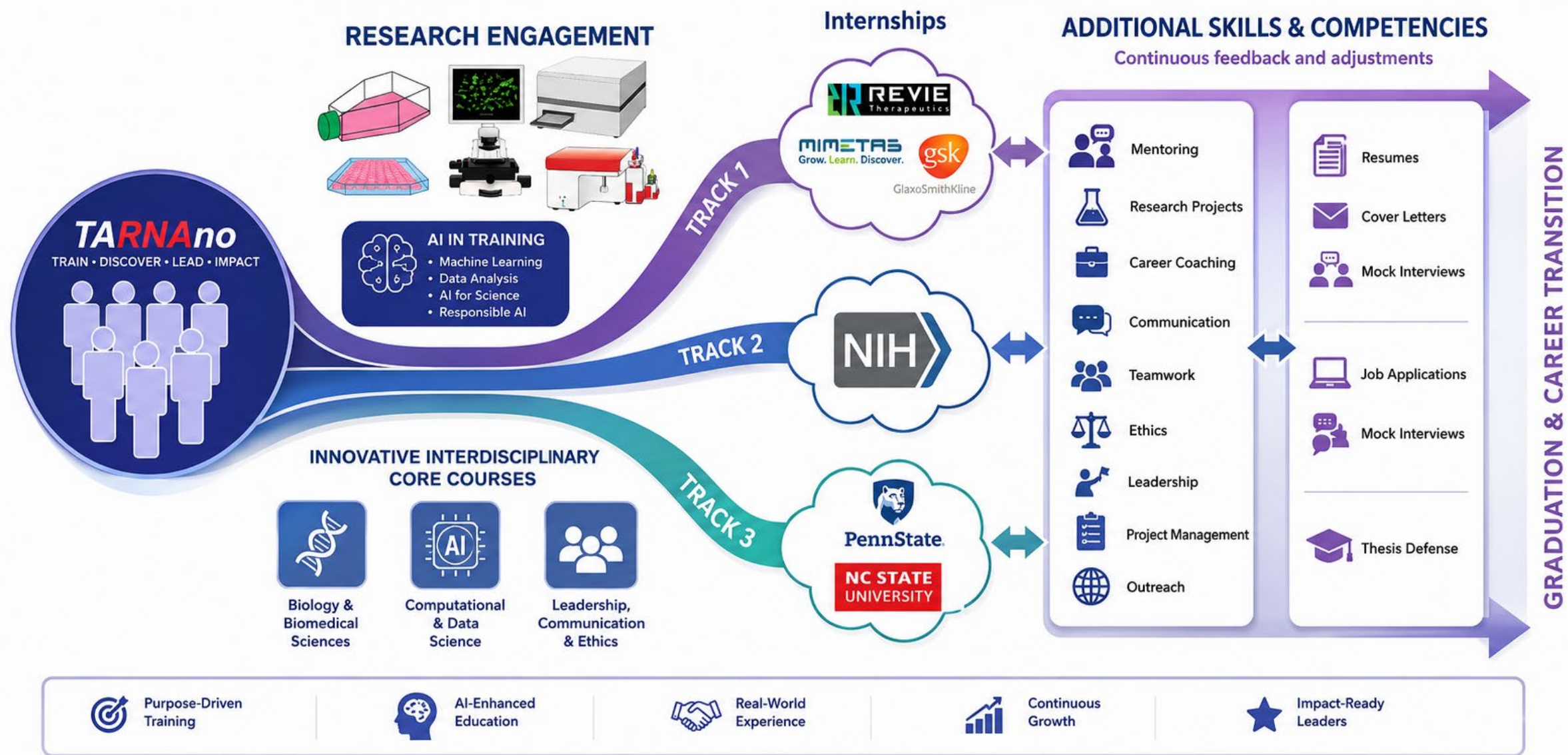
New program will develop, validate and standardize research tools to develop more sophisticated and relevant models of disease.

The National Institutes of Health (NIH) today announced more than \$150 million to develop and scale research methods that better simulate human biology and reduce reliance on animal

The National Institutes of Health (NIH) is adopting a new initiative to expand innovative, human-based science while reducing animal use in research. Developing and using cutting-edge alternative nonanimal research models aligns with the U.S. Food and Drug Administration's (FDA) recent initiative (link is external) to reduce testing in animals. While traditional animal models



Traineeship in the Advancement of RNA Nanotechnologies (TARNAno)



Traineeship in the Advancement of RNA Nanotechnologies (TARNAno)



RNA Nanotechnology for Tomorrow's Medicine

Measuring What Matters: Student Success at taRNAno

Developing innovative scientists and leaders who translate RNA nanotechnology into real-world impact

1) What Does Student Success Look Like?

- Scientific excellence & technical mastery
- Research productivity & innovation
- Career trajectory & placement
- Innovation & entrepreneurship
- Leadership & professional growth
- Personal growth & confidence
- Societal & clinical impact

2) Which Ones Show Up in Our ROI Metrics & Policies?

- Publications & citation impact
- Grants & funding
- Patents & licensing
- Startup formation & commercialization
- Presentations, awards & recognition
- Graduation rates & time-to-degree
- Placement in jobs, postdocs, or programs
- Industry partnerships & sponsored research
- Technology milestones & regulatory progress (*taRNAno specific*)
- Investor interest & partnership development (*taRNAno specific*)
- Workforce development & economic impact

Our Workforce Development Pipeline



Our Goal: Cultivate innovative, resilient, and ethical leaders who advance RNA nanotechnology and improve human health through discovery, translation, and entrepreneurship.



DISCOVER



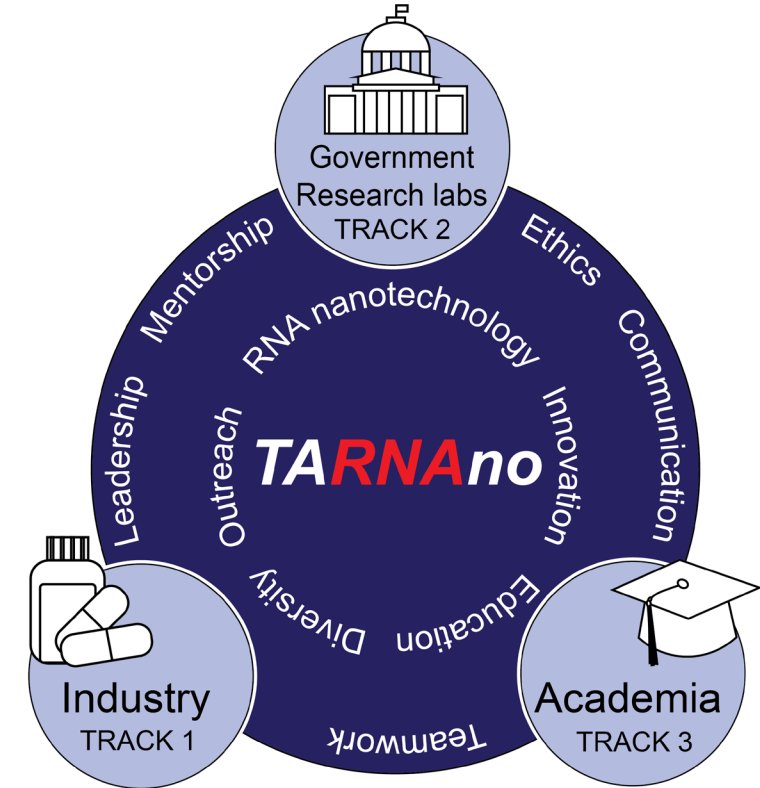
DESIGN



DELIVER



IMPACT



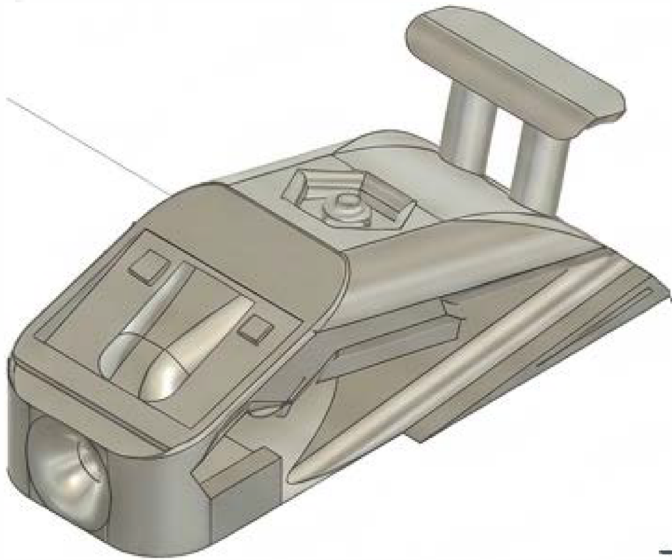
Building Georgia's High-Tech Talent Pipeline in Rural Classrooms



Revitalizing local economies by putting industrial-grade manufacturing technology and AI skills directly into the hands of high school students.

Design

Autodesk Fusion CAD & Python Data Analytics



Build

Tormach CNC Machining & Bambu 3D Printing



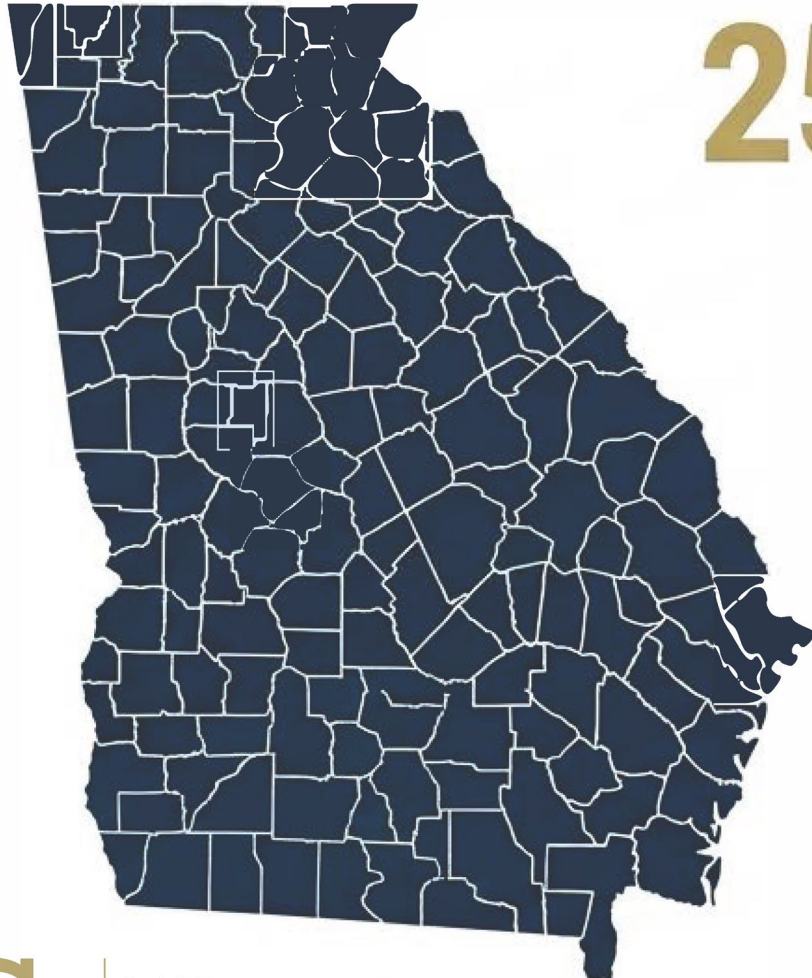
Race

Physical Prototyping & Real-World Testing



Going beyond standard STEM-students master the exact tools used by modern industry, turning designs into reality in hours.

Georgia Tech Partnership: Cultivating Local Talent for Advanced Manufacturing



250+ Participating Students

6 School Systems

14 Additional High Schools On Deck

By building **advanced AI and machining skills** at home, we ensure rural communities don't just attract modern manufacturing jobs—they provide the **homegrown talent to fill them.**



Table Talk

- Who is missing from this conversation?
- What metrics indicate student readiness for the workforce?

Call to Action

What is our next action to ensure that every learner is prepared for the workforce today and in the future?

THANK YOU!

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