

Jay James, CISSP, PMP

CYBERSECURITY OPERATIONS MANAGER
AUBURN UNIVERSITY

AI-Supported Model for Student Workforce Development

WHAT YOU'LL LEAVE WITH

Learning objectives

1

Design the model

Build an AI-supported student workforce model that puts students into live operations while keeping institutional trust and oversight intact.

2

Scale without replacing

Apply AI to scale coaching, documentation, and skill development inside student programs without replacing human mentorship.

3

Manage the risk

Examine the structures, roles, and guardrails needed to ensure quality ensure quality and control in AI-supported, student-led operations.

4

Position the framework

Use a transferable framework that frames student programs as as strategic assets for career readiness and institutional outcomes.

Show of hands

Where are we today?

Q1

Do students already do real operational work at your institution?

Raise your hand: Yes, formally · Informally · Not yet

Q2

Where are you with AI in those student programs?

Raise your hand: Banned · Exploring · In use · Scaled

OPEN FLOOR

Where does this get stuck for you? Time, trust, or know-how?

THE PROBLEM

A readiness gap

1 in 3

entry-level jobs now require AI skills

Nearly triple the share from fall 2025. The expectation arrived faster than the curriculum.

~60%

of employers assign interns AI-tool projects

Students are expected to use AI on real work work from day one of an internship.

39%

of core job skills will change by 2030

The target keeps moving, so programs have to have to teach adaptability, not just tools.

Sources: NACE Job Outlook 2026 Spring Update (employer survey, Feb–Mar 2026); World Economic Forum, Future of Jobs Report 2025.

THE PROBLEM

Employer and classroom mismatch

WHAT EMPLOYERS WANT

- 82% of employers feel equipped to put AI to work
- 62% struggle to find entry-level talent with durable skills

WHAT CURRICULUM DELIVERS

- Only 22% of higher-ed leaders feel equipped to implement AI
- Half dedicate 20% or less of the curriculum to workforce skills

The students didn't build this gap. We did – and we can close it inside the work we already run.

Sources: Cengage Group Employability Report 2024; Inside Higher Ed / Hanover Research surveys of higher-ed leaders.

MY FIELD — THE SHARP EDGE OF THE PROBLEM

Cybersecurity: an AI skills gap, not a headcount gap

4.8M roles sit open globally — but the harder shortage is capability: who can actually defend with AI.

41%

AI is the #1 cybersecurity skill need

Ahead of cloud security (36%), for the second year running. The shortage is now an AI-capability gap.

70%

of security teams already use or are testing AI

AI is becoming part of how the work gets done day to day — not a future concept.

88%

have had a skills gap cause a real incident

The shortage isn't abstract. It shows up as breaches the team couldn't get ahead of.

THE REFRAME

**You can't hire AI-ready defenders fast enough.
You build them — by training students with AI from day one.**

The same AI that's reshaping the field becomes the scaffold that closes the gap.

Federal investment backs the build: NSF CyberAI Scholarship-for-Service and DARPA's AI Cyber Challenge fund exactly this.

THE CORE IDEA

AI is a scaffold, not an engine

The same tool produces opposite outcomes depending on how a student is taught to use it.

AI AS ENGINE

“Write me a caption about the career fair.”

- Generic, templated output
- Students copy, paste, and learn nothing
- The skill gap quietly widens

AI AS SCAFFOLD

“Help me think through why a freshman would care.”

- ✓ Student builds judgment and asks better questions
- ✓ AI bridges what they can do alone vs. with guidance
- ✓ Eventually they ask the questions without the AI

The goal is a student who outgrows the scaffold – not one who depends on it.

Quick write

2 minutes

Where is the biggest workforce-readiness gap for YOUR students right now?

EXAMPLE FOR INSPIRATION

“Our accounting grads can use Excel, but they have never touched the AI tools an employer now expects them to use on day one.”

A Security Operations Center staffed by students

THE MODEL

- Auburn's SOC was founded with students as the front-line front-line analyst tier — not shadowing the work, doing it. doing it.
- They rotate through alert triage, threat detection, and guided incident response on live university infrastructure.
- Clearly defined roles and escalation paths keep students inside safe guardrails while the work stays real.

WHY IT WORKS

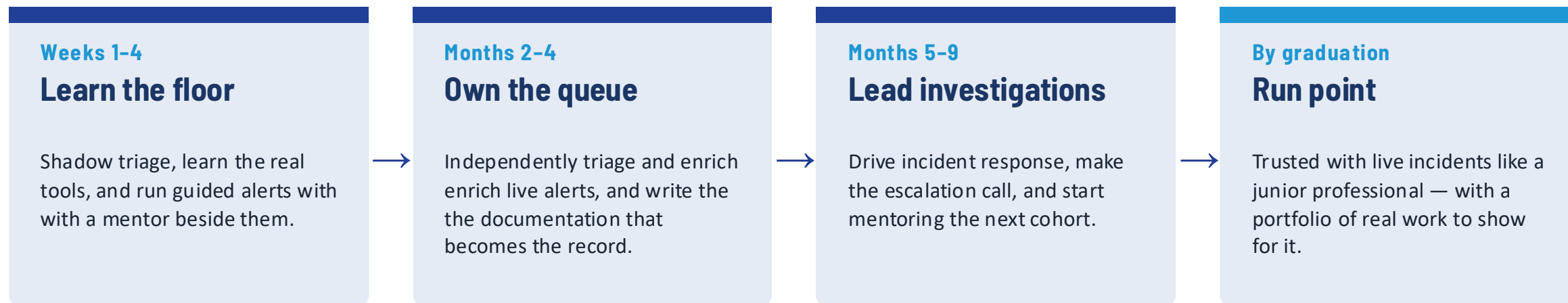
Students work real alerts from day one.

Industry onboarding for a SOC analyst runs 4 to 9 months.

Our students are already past that curve before they graduate — the program is a repeatable security-talent pipeline, not a one-off internship.

From first shift to running point

Our students walk in green and grows into a trusted front-line analyst. Our change prioritizes how much real responsibility our team responsibility our team hands them.



THE REAL TOOLING THEY LEARN ON

Splunk Enterprise Security · Microsoft Sentinel · Microsoft Defender XDR · Cisco XDR

The same enterprise stack they'll be hired to run — no toy lab. Industry-recognized certifications follow the experience; they're the byproduct, not the point.

Where AI fits – and where the student stays in charge

AI ASSISTS

- Classifies and enriches incoming alerts so students start from signal, not noise
- Tags credential-leak alerts (e.g., a Microsoft leaked-credential alert) against a shared taxonomy like VERIS
- Drafts first-pass documentation and walks the reasoning a student should check

THE STUDENT DECIDES

- ✓ Owns the escalation call — is this real, and what's the business impact if I'm wrong? wrong?
- ✓ Validates every AI classification before it becomes the record
- ✓ Carries accountability; AI is the coach, the analyst is the player

The dual return: students grow, the work gets done

The same hour produces a developing professional and real operational output.

STUDENTS DEVELOP

- Workforce-ready technical and professional skills skills
- Real judgment, built before graduation
- A portfolio and certifications, not just a transcript line

OPERATIONS GETS DONE

- Real alerts triaged, documentation produced, backlog backlog cleared
- Staff freed for the high-stakes work only they can do
- Capacity you can actually afford in a budget-cut climate

36% of cybersecurity teams reported budget cuts in 2025. A student workforce is how stretched departments add capacity without adding headcount.

Your turn: map a task

Groups of 3–4 · 7 minutes · then 2–3 groups share out loud

1

Name one live, recurring task in your unit — something real that happens every week.

2

Decide what a student could safely own, and where AI would scaffold the work.

3

Name the one guardrail that keeps it safe — who reviews, reviews, what stays human.

EXAMPLE FOR INSPIRATION

Task: weekly user access-review report

Student owns: drafting the report

AI scaffolds: pulling and summarizing the access logs into a first draft

Guardrail: the IT manager reviews and signs off before it is filed

THE EVIDENCE

AI coaching helps the least-experienced most

This is why a student workforce program is the right place to use AI.

+34%

productivity gain for novice and
and low-skilled workers with AI
AI assistance

+14%

average gain across all workers
workers — the lift is
concentrated at the bottom

2 → 6

months: a 2-month employee
employee with AI matched a 6-
6-month employee without it
it

AI disseminates the tacit know-how of expert workers and moves newcomers down the experience curve faster.

Four dimensions: what AI scales, what humans keep

Coaching

AI SCALES

Feedback on every interaction

HUMANS KEEP

High-stakes mentorship and relationships

Consistency

AI SCALES

The same standard on the the 1st and 1,000th piece piece

HUMANS KEEP

Edge cases and creative creative direction

Skill Development

AI SCALES

On-demand practice and iteration

HUMANS KEEP

Curriculum, goals, and assessment

Ethics & Voice

AI SCALES

First-pass flagging at scale

HUMANS KEEP

Final review and accountability

Coaching

AI gives feedback on every piece of work. Humans give the mentorship that turns a worker into a professional.

AI SCALES

- Every alert a student closes gets an instant coaching note — note — not just the few a supervisor happens to review
- AI asks “what evidence confirms this, and what’s the impact if you’re wrong?” before the student escalates
- Feedback lands in seconds on a 2 a.m. shift, with no waiting for a 1:1

HUMANS KEEP

- The high-stakes mentorship: “you’re ready to run point on the point on the next incident”
- Career conversations and the trust that builds a confident professional
- Knowing when a student needs encouragement, not another correction

IN PRACTICE – Cyber SOC

A student triages a phishing alert. AI prompts them to name the evidence and the business impact before acting; they reason it through, and the SOC lead reviews the judgment at the next standup. **Takeaway: AI coaches the thinking; the human reviews the judgment.**

Consistency

AI holds the same standard on every piece of work. Humans decide when the standard should bend.

AI SCALES

- Every social post gets the same brand-voice check —the 1st the 1st and the 1,000th
- The bar never drifts with advisor fatigue, mood, or who is on shift
- A student on day one is held to the same standard as a senior on day 300

HUMANS KEEP

- Edge cases —the post that breaks the rule on purpose because it is better
- Creative direction, and the judgment that “off-brand” is sometimes the right call

IN PRACTICE – Creator Program

Before a reel reaches a supervisor, AI checks the caption against the brand guide and flags an off-tone line. The student fixes it, and the supervisor spends their time on the creative idea instead of catching typos. **Takeaway: AI handles routine consistency so humans focus humans focus on creativity.**

Skill Development

AI gives unlimited low-stakes practice. Humans decide what skills matter and how growth is measured.

AI SCALES

- Students rehearse prompting, ideation, and critique as many many times as they want before a human weighs in
- A student can fail safely twenty times at 11 p.m. —no supervisor's hour spent, no real-world fallout
- Practice reps that used to require a mentor now happen on demand

HUMANS KEEP

- Curriculum design —deciding which skills the program program actually builds
- Goal-setting and assessment —defining what “good” looks like and measuring growth

IN PRACTICE – Creator Program

Instead of asking AI to “write a caption,” students ask it “why would a freshman care about this event?” They iterate on tone and context —and tone and context —and eventually ask the question without the AI. **Takeaway: Teach prompting as a thinking skill; the transfer is asking without asking without AI.**

Ethics & Voice

AI runs the first-pass, transparent safety check. Humans own every decision that carries real consequence.

AI SCALES

- First-pass flagging of off-brand, non-compliant, or sensitive sensitive content — routine, low-risk, at scale
- A transparent log of where AI was used, so nothing is hidden in a student's submitted work
- Catching the obvious data-handling mistake before it ever reaches a person

HUMANS KEEP

- Final review, institutional accountability, and policy
- Every irreversible call — escalations, disclosures, anything with real consequence

IN PRACTICE – Cyber SOC

Students handle sensitive security data, so the program builds in transparent AI use, written data-handling rules, and a human accountable at every escalation. AI flags; a person decides. **Takeaway: Design ethics in from day one, with a human accountable at every key decision.**

Rate each dimension 1 (not yet) to 5 (mature). Your lowest score is your best pilot candidate.

Coaching

1

2

3

4

5

Consistency

1

2

3

4

5

Skill Development

1

2

3

4

5

Ethics & Voice

1

2

3

4

5

EXAMPLE: most new programs score 4–5 on Skill Development but 1–2 on Consistency —that gap is exactly where AI where AI scaffolding helps fastest.

Standardize the workflow, then make students reflect

Two places AI quietly does the most work in a student program: holding the standard, and turning a task into learning.

Standardize

AI SCALES THE STANDARD

Runbooks, SOPs, alert templates, templates, and documentation come out consistent no matter which student is on shift. Quality stops depending on who who showed up.

Document

AI DRAFTS, STUDENTS VERIFY

First-pass notes, ticket write-ups, ups, and incident summaries are drafted by AI and corrected by the student, so the record gets written and the student learns the format.

Reflect

AI SCAFFOLDS THE LEARNING

After-action prompts — what evidence confirmed this, what would you do differently — turn a completed task into a coached reflection instead of a closed ticket.

Standardizing protects the institution. Reflection is what separates a job from a development program.

The guardrails that make it safe to say yes

1 Defined roles

Students operate inside named roles with explicit scope — they know what they own and what they hand hand up.

2 Transparent AI use

AI assistance is disclosed and logged, never hidden inside hidden inside a student's submitted work.

3 Data-handling rules

Clear classification and handling rules for sensitive data, sensitive data, written before students touch it.

4 Human at every escalation

A staff lead is accountable at each decision that carries carries real consequence. AI never escalates on its own. own.

Where this goes wrong

- 1) Hands up for each failure mode you have already seen. 2) We unpack one or two: how did it happen, and what would have prevented it?



Crutch, not scaffold

Students paste AI output and never build the underlying judgment.



No one is accountable

AI “decides” and no human owns the call when it carries real consequence.



Scope creep

A safe, bounded task quietly expands into high-stakes decisions without without new guardrails.



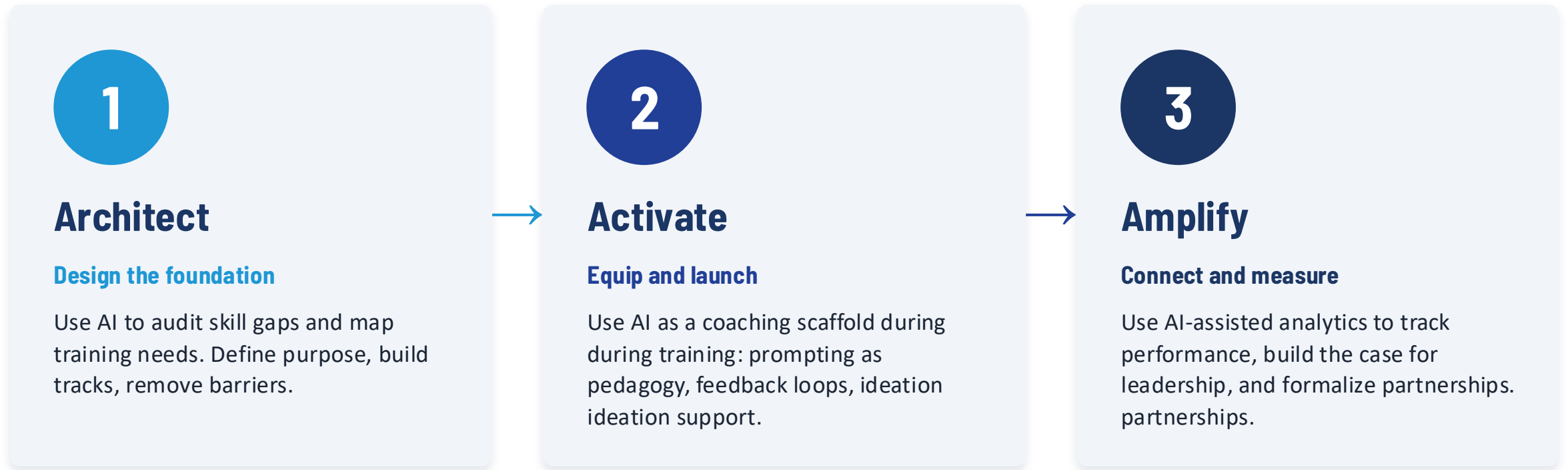
Free labor, not development

The program is run for output only, with no coaching, reflection, growth.

EXAMPLE UNPACK – Scope creep: a student’s monitoring task drifted into making blocking decisions. The fix: a written escalation rule that kept blocking with kept blocking with the staff lead.

HOW TO BUILD IT

Architect, Activate, Amplify



POSITION THE ASSET

These programs are institutional assets

EMPLOYABILITY

57%

of students with internship experience get a job offer before graduating — vs. 37% without one

CONVERSION

53%

of interns convert to full-time hires — a built-in recruiting pipeline for partners

RETENTION

76%

of former interns are still still on the job after year one — vs. 52% of non-intern hires

EMPLOYER DEMAND

#1

Internship experience is is employers' top tiebreaker between two two otherwise-equal candidates

Sources: NACE Class of 2015 Student Survey (offer rates); NACE 2024–2025 Internship & Co-op Reports (conversion, retention); NACE Job Outlook & 2024 Student Survey. 2024 Student Survey.

Embedding AI training is an equity move

Students already use AI. The only question is whether we teach them to use it well.

When AI coaching is embedded for every student rather than left as an elective, prior experience — which today skews toward men and wealthier students — stops gatekeeping who gets coached, and the learners with the least experience gain the most.

86%

of students already use AI in their studies — nearly 1 in 4 every day every day

36%

of students get institutional support to build AI skills, though most call most call it essential

Sources: Digital Education Council Global AI Student Survey; HEPI/Cengage graduate AI-training surveys.

Build your 90-day pilot

8 minutes, solo or in pairs · fill all three steps · then 4–5 people say their pitch out loud

1 Map it

Run your program against the four dimensions. Mark where AI can scale support and where a human must stay in control.

2 Sequence it

Use Architect → Activate → Amplify. Write one concrete action per stage. Start lowest-risk, highest-value.

3 Commit to it

Choose the one dimension you will pilot in pilot in 90 days, then draft your one-sentence pitch below.

EXAMPLE FOR INSPIRATION

"In the next 90 days I'll pilot the Coaching dimension in our help-desk student team: AI gives every ticket a first-pass reply that students refine, and a staff lead reviews anything escalated. In one term we cut response time and turn six student workers into trained professionals."

YOUR ONE-SENTENCE PITCH

In the next 90 days I will pilot the _____ dimension in _____, by having students _____ with AI scaffolding _____, reviewed by _____.

Five principles for student programs

- 1 Co-pilot, not autopilot** Students keep creative and decision-making authority.
- 2 Prompting is pedagogy** Teaching students to prompt is teaching them to ask better questions.
- 3 Measure growth, not output** Track skill development, confidence, and autonomy.
- 4 Make coaching equitable** Embed AI support so prior experience stops gatekeeping.
- 5 Design ethics in from day one** Transparent use, clear boundaries, a human accountable for every key decision.

AI works best when it develops the student – not just the output.