AI IN MODERN AGRICULTURE · LESSON 6 OF 6 · FINAL

Research, Innovation & Future Careers

Communicating science, designing your career, and launching into AgTech.

Sumaya Sanober, PhD

TODAY

Research · Communicate Launch

YOU'LL WALK AWAY WITH

Three competencies. One career launch.

1 — RESEARCH

Conduct & communicate science

Design a study, analyze findings, write it up for any audience.

2 — COMMUNICATE

Posters, talks & policy briefs

Tell the story so farmers, peers, and funders all get it.

3 — LAUNCH

Map your AgTech career path

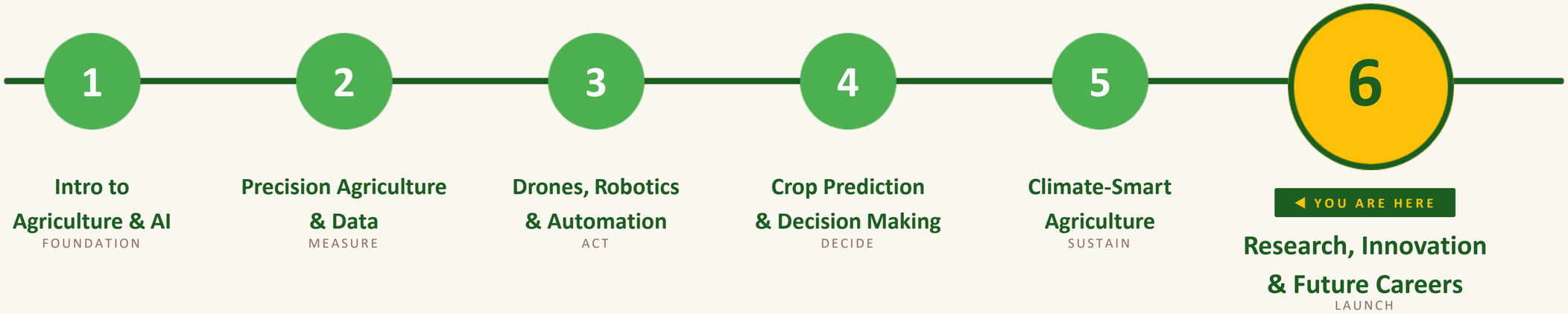
USDA, engineering, data science, or founding a startup.

9 TOPICS TODAY

Research methods · Sci-comm · Posters · Presenting · College pathways · USDA · Ag engineering · Data science · Entrepreneurship

The 6-Lesson Journey

From a single sensor to a science career, six weeks that build on each other.



Today's Agenda

Four sections that move from **doing the research** to **research** to **launching your career.**

PARTS 1 ·

01 Doing the Research

Conducting research, posters, presentations, and scientific communication.

PART 2 ·

02 Career Pathways

College, USDA, engineering, data science, and entrepreneurship in AgTech.

PART 3

03 Class Activities

Build a 5-panel research poster and design your own career path.

CLOSING

04 Reflect & Launch

Scan the QR — submit your reflection on six weeks of learning.

Seven Course Learning Outcomes

By the end of this course, students will be able to…

1
Explain AI in modern agriculture
WEEK 1

2
Describe sensors, drones, robotics & analytics
WEEKS 2–3

3
Interpret agricultural data
WEEK 4

4
Sustainable & climate-smart practices
WEEK 5

5
Design a simple AI-based agricultural solution
WEEKS 4 · 6

6
Present scientific findings effectively
WEEK 6

7
Explore AI, ag, engineering & data science careers careers
WEEK 6

WEEK 6 · WHAT WE PROVE TODAY

Outcomes **5**, **6**, and **7** — designing AI solutions, communicating findings, and exploring career pathways — are exactly what are exactly what this closing lesson is built around.

PART 1 · 4 SLIDES

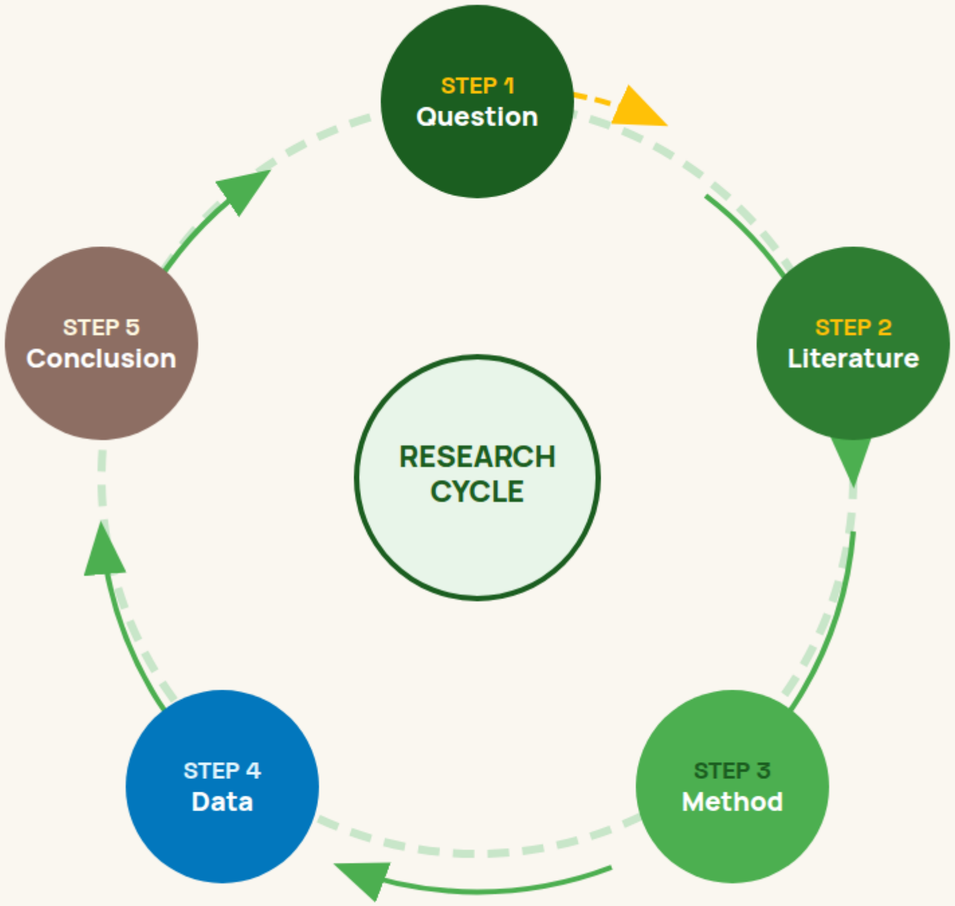
Doing the Research

From question to publication: how agricultural science actually works.

YOU COVER

Conducting research · Scientific communication · Posters · Presentations

The Research Cycle



WHAT EACH STEP MEANS

- **1 · QUESTION** What problem am I solving? What is unknown?
- **2 · LITERATURE** What's already known? Review existing studies.
- **3 · METHOD** How will I collect reliable, replicable data?
- **4 · DATA** Collect, clean, analyse — what patterns emerge?
- **5 · CONCLUSION** What did I find? What comes next? How do I share it?

REFERENCE

USDA-NIFA Agricultural Research · nifa.usda.gov/grants

Why, What & How of Sharing Science

 Research Paper |  Research Poster |  Oral Presentation |  Policy Brief

WHY COMMUNICATE?

Your Audience

FARMERS

Need practical, usable knowledge they can apply this season.

PEERS

Need rigour, methods, and reproducibility to build on your work.

POLICYMAKERS

Need the headline finding + cost-benefit to justify investment.

WHAT GOES IN?

The Message

- **Q** A clear research question
- **M** Transparent methods
- **R** Key results with visuals
- **I** So-what: real-world impact
- **N** Next steps & open questions

HOW TO DO IT WELL?

The Craft

- **Clarity** — one idea per sentence; remove jargon
- **Visuals** — a chart is worth 300 words
- **Replication** — others can repeat your process
- **Brevity** — respect your audience's time

REFERENCE

AAAS Science Communication
aaas.org/programs/public-engagement

Poster Anatomy & Common Mistakes

TITLE BAR — Big, bold, readable from 3 m away — MIN 60PT FONT

Author · Institution · Contact email

INTRODUCTION

Background context. Why does this problem matter? What gap exists in the literature?

Rule: 100–150 words max

METHODS

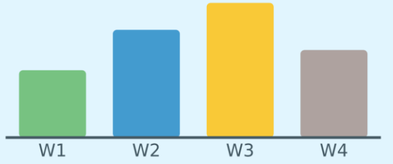
How did you collect & analyse data? What equipment, sensors, models, or protocols did you use?

Rule: Diagrams beat paragraphs

RESULTS

Your main findings — charts, maps, photos. This section should use 40% of your total space.

40% of poster space



Rule: Every chart needs axis labels

CONCLUSIONS

What do your results mean? Real-world impact impact and next steps for research.

Rule: End with a call to action

QR CODE + REFERENCES

Link to full data, code repo, or supplemental supplemental materials. Cite at least 5 sources.

Rule: QR goes bottom-right, always

4 COMMON MISTAKES

TINY FONTS

Minimum 24pt body. Viewers read from 1–2m away.

TOO MUCH TEXT

A poster is a teaser, not a thesis. Cut 60% of words.

BUSY BACKGROUNDS

White space is not wasted space — it guides the eye. the eye.

MISSING QR / DATA LINK

Always link to code, data, or supplemental. Viewers want to dig deeper.

The 4-Part Pitch Template

Use this structure for any length — from a 3-minute elevator pitch to a 15-minute conference talk.

1

HOOK · ~15 SECONDS SECONDS

The Story

Open with a vivid 15-second story that makes your audience feel the problem. "Last summer, Maria's bean farm lost 30% bean farm lost 30% of its yield because no one saw the blight coming in time."

2

PROBLEM · THE WHY

The Stakes

Why does this problem exist? Who is affected? What does it cost — in money, food, environment, or wellbeing? Use one clear statistic.

3

METHOD · THE WHAT

Your Work

What specific approach, tool, sensor, or model did you apply? Keep it non-technical — focus on the decision, not the equation.

4

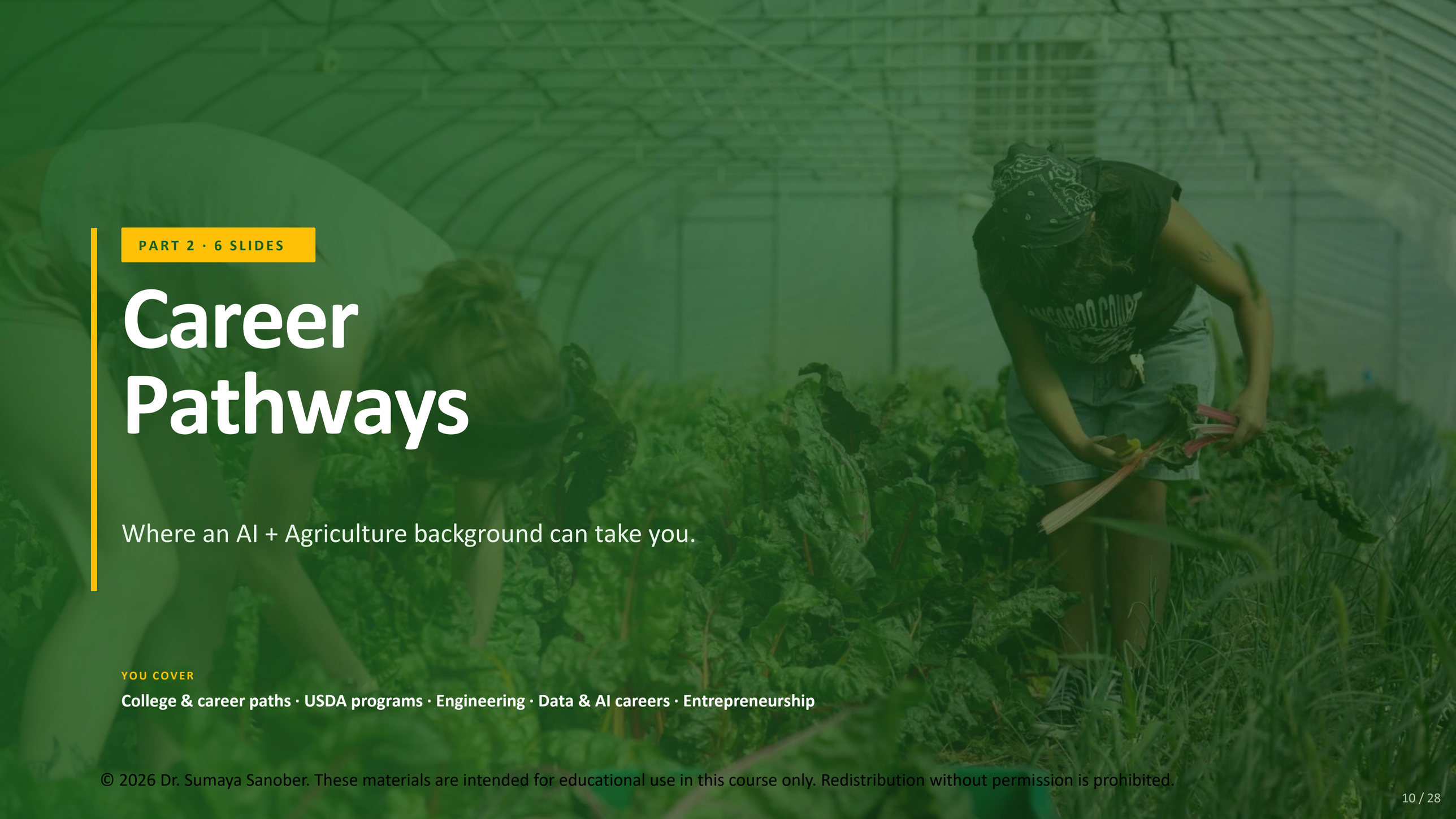
RESULT + SO WHAT

The Impact

What changed? What was the measured improvement? And critically — **so what?** Connect your result to a decision a farmer, policy-maker, or engineer would actually make differently now.

REFERENCE

AAAS Communicating Science Science aaas.org/programs/public-engagement



PART 2 · 6 SLIDES

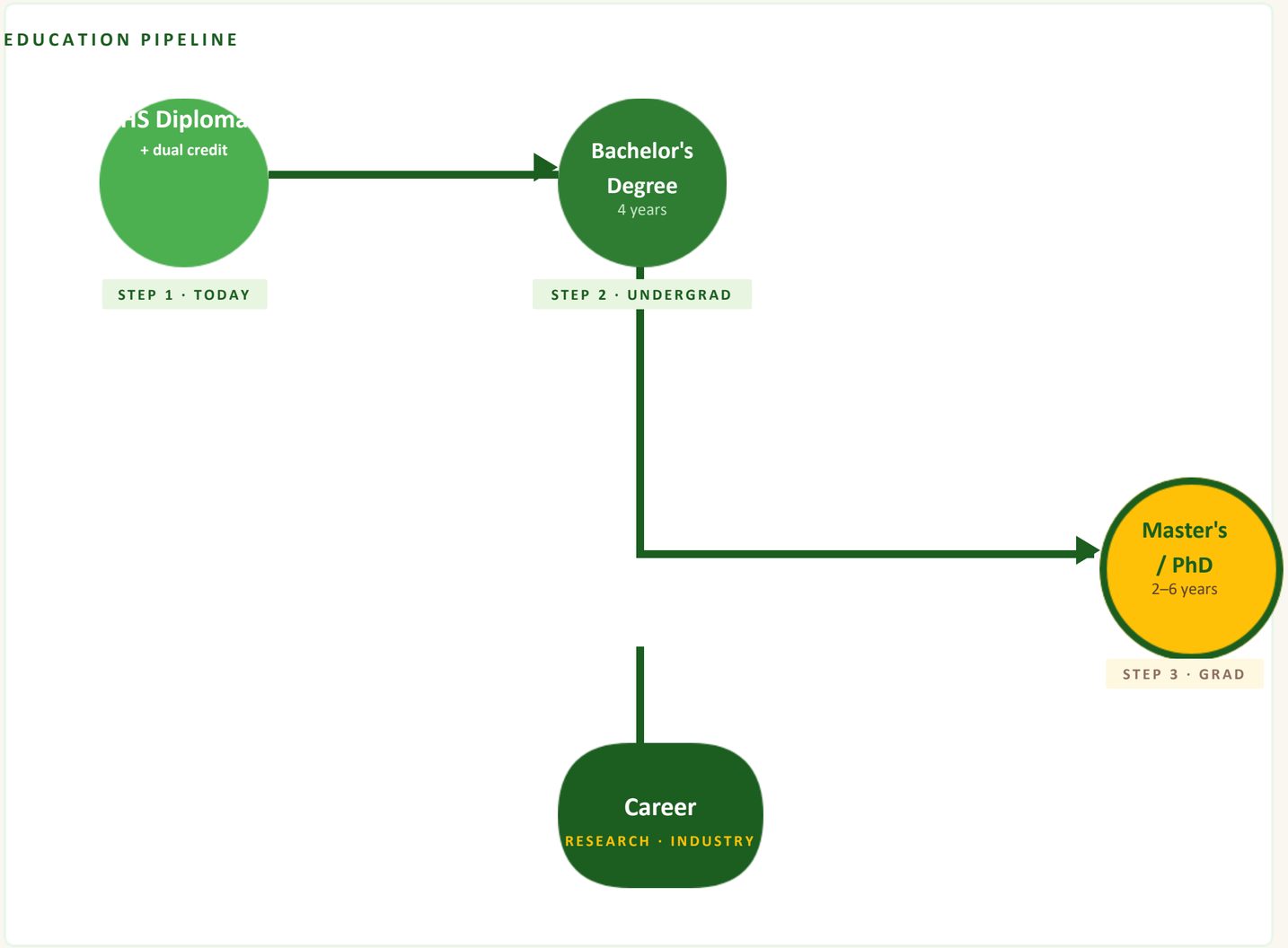
Career Pathways

Where an AI + Agriculture background can take you.

YOU COVER

College & career paths · USDA programs · Engineering · Data & AI careers · Entrepreneurship

From High School to a Career in AgTech



SAMPLE MAJORS · STEP 2

Pick a Major That Marries Two Two Worlds

A **Plant Science**

Plant biology, genetics, soils, ecology. Foundation for agronomy, breeding, and crop improvement.

B **Computer Science**

ML, statistics, data engineering. Powers decision tools for for yield, weather, and risk modeling.

C **Biological Systems Engineering**

Mechatronics, fluid dynamics, sensors. Builds the machines, drones, and irrigation systems.

Four USDA Doors That Want You

From high-school internships to PhD research grants — the federal government funds agriculture at every stage.

$$

GRANTS

USDA-NIFA · AFRI Grants

The Agriculture & Food Research Initiative the largest USDA competitive grants grants program. Funds **research, education, and extension** for sustainable agriculture, agriculture, food security, and climate adaptation.

WHO
Undergrad seniors, Master's and PhD students, postdocs

nifa.usda.gov/program/afri

☼

INTERNSHIPS

USDA Summer Internships

Paid summer internships across USDA agencies — from the Forest Service to the Economic Research Service. Work on real projects alongside USDA scientists.

WHO
High-schoolers (limited), undergrads, grads

usda.gov/internships

4H

YOUTH

4-H Youth Development

The largest youth development program in the U.S. Members lead STEM, agriculture, and civic projects with state-level support and national competitions.

WHO
Ages 5–19, in every U.S. county

4-h.org

ARS

EMPLOYMENT

USDA Agricultural Research Service

ARS is USDA's in-house research arm — 2,000+ scientists at 90+ locations solving problems from crop diseases to climate-resilient breeds. Hires BS, MS, and PhD researchers.

WHO
Anyone with a STEM degree, any career level

ars.usda.gov/careers

Source: USDA Office of Partnerships & Public Engagement · usda.gov/partnerships

Four Indian Doors That Want You

From **ICAR research** to **Kisan Drones** — India's federal and state systems fund agriculture at every stage, just like USDA, with sharper smallholder focus.

ICAR

RESEARCH COUNCIL

Indian Council of Agricultural Research

ICAR is India's apex agricultural research body — **113 institutes** including IARI, IVRI, and CIFE. Coordinates PhD, M.Tech and M.Sc programs through 75 state agricultural universities.

WHO

Bachelor's entrance (ICAR AIEEA), Junior Research Fellow (JRF/SRF), Project staff

icar.org.in

NG

INTERNSHIPS

MANAGE & State Agri Dept. Internships

National Institute of Agricultural Extension Management (MANAGE) and every State Agriculture Department run paid internships under the **ARYA (Attracting Rural Youth in Agriculture)** and **RKVY (Rashtriya Krishi Vikas Yojana)** programs.

WHO

Undergrads and master's students in Agriculture, Engineering, Computer Science

manage.gov.in

K

YOUTH & DRONES

Kisan Drone Yatra & Drone Schools

India's **Kisan Drone scheme** subsidizes drone purchases for agri-graduates, FPOs, and rural entrepreneurs. The Drone Schools at IGRUA and state agri universities train pilots for spraying, mapping, and yield analytics.

WHO

Agri graduates 18–40 years, FPOs (Farmer Producer Organizations)

agricoop.nic.in

SAU

UNIVERSITY ACCESS

State Agricultural Universities

A network of **75+ SAUs** (e.g. TNAU Coimbatore, GBPUAT Pantnagar, PAU Ludhiana, UAS Bengaluru, ANGRAU) offering B.Sc, M.Sc, and PhD in agriculture, horticulture, ag engineering, and food tech — with much lower tuition than private universities.

WHO

Class 12 (PCB/PCM), state entrance exams like KCET, MHT-CET, TJEE

jcboseust.ac.in/exams

Source: ICAR · MANAGE · Ministry of Agriculture & Farmers Welfare · agricoop.nic.in

Funding Your AI × Ag Research in India

Five concrete pathways — from **Science Engineering Research Board** fellowships to **IARI M.Tech / PhD** — that turn AI-in-agriculture into a paid, credentialed career.

SERB

GOVT. GRANTS

SERB — DST

Science & Engineering Research Board runs **Start-up Research Grant**, **EMR** and **CRG** for faculty and postdocs. SERB also funds the **International Travel Scheme** for conferences.

AMOUNT

≈ ₹10–₹50 lakh per project

serb.gov.in

INSPIRE

FELLOWSHIP

DST INSPIRE

Innovation in Science Pursuit for Inspired Research — a 5-year fellowship for top science students (Class 12 → Master's) at any Indian university. Covers tuition + stipend + research grant.

AMOUNT

₹80,000/year stipend + ₹5 lakh research

dst.gov.in · inspire-dst.in

RKVY

STATE GRANTS

RKVY & RKVY-RAFTAAR

Rashtriya Krishi Vikas Yojana funds state-level innovation — the **RAFTAAR** sub-scheme backs agri-startups with seed capital ≈ ₹5–₹25 lakh for FPOs and student entrepreneurs.

AMOUNT

Up to ₹25 lakh seed grant

rkvy.nic.in

IARI

DEGREES

IARI & ICAR PG

The **Indian Agricultural Research Institute** (IARI, New Delhi) — "the Harvard of Indian agriculture" — admits Master's and PhD via the **ICAR AIEEA-PG** exam. Full stipend + campus food + publication support.

AMOUNT

₹12,600/month stipend + ₹5,000 research research

iari.res.in

IIT

INTERDISCIPLINARY

IIT — AI × Ag Cells

The IITs (Bombay, Kanpur, Madras, Kharagpur) each have an **AI for Sustainable Agriculture** research cell under their Computer Science dept. Open to summer interns, B.Tech projects, and dual-degree M.Tech.

AMOUNT

₹10–₹15 lakh MHRD stipend

iitb.ac.in · cse.iitm.ac.in

Source: SERB · DST · MoA&FW India · ICAR · IIT Council

Founders Solving Indian Agriculture — With You in Mind

India has **1,000+ AgTech startups** (Nasscom 2024). These four are the analogues to Indigo Ag & ClimateAi in the U.S. — but tuned to **smallholder-first** realities.

F

BENGALURU · IOT

Fasal — Smart Farm IoT

What it does: Affordable IoT sensors + AI that predict disease 7–10 days in advance — deployed on 75,000+ smallholder farms across grapes, pomegranates, and coffee.

fasal.ai · founded by Ananda Verma, Shailendra Tiwari

A

PUNE · ADVISORY

AgroStar — Farmer Advisory App

What it does: India's largest direct-to-farmer agri-input platform. Its **Crop Disease AI** (chat-style photo diagnosis) reaches 5M+ farmers in Marathi, Telugu, Hindi.

agrostar.in · founded by Shardul Sheth, Sitanshu Shetty

C

BENGALURU · SAAS

CropIn — Farm Intelligence SaaS

What it does: Satellite + weather + farm-record AI platform used by **250+ agribusinesses** across 92 countries. Built India's first digital crop-cutting experiment dataset.

cropin.com · founded by Krishna Kumar

N

BENGALURU · SUPPLY CHAIN

Ninjacart — Farm-to-Retail Logistics AI

What it does: AI-routed farm produce supply chain moves 1,800+ tonnes/day from farmers to retailers — cutting 4 middlemen. $150M+ funded.

ninjacart.in · founded by Thirukumaran Nagarajan, Vasudevan Chinnathambi

A · 4-STEP FOUNDER PATH

1. **Idea from your Class 11/12 village field visit**
   e.g., "Pest alerts for cotton farmers in Vidarbha"
2. **Build MVP at IIT/IIM incubation cell**
   Use RKVY-RAFTAAR ≈₹25 lakh seed fund
3. **Pilot with a Farmer Producer Organization (FPO)**
   Even 20 farmers count — a classic Indian AgTech open data
4. **Series A — tie-up with ITC, Mahindra, or state agri-marketing board**
   Average Indian AgTech Series A: $3–$8M

INDIA AGTECH BY THE NUMBERS

1,000+	$1.6B	120M	18%
AgTech startups (Nasscom (Nasscom 2024)	Total VC funding in 2023	Smallholder farms below 2 ha.	Of GDP, from agriculture

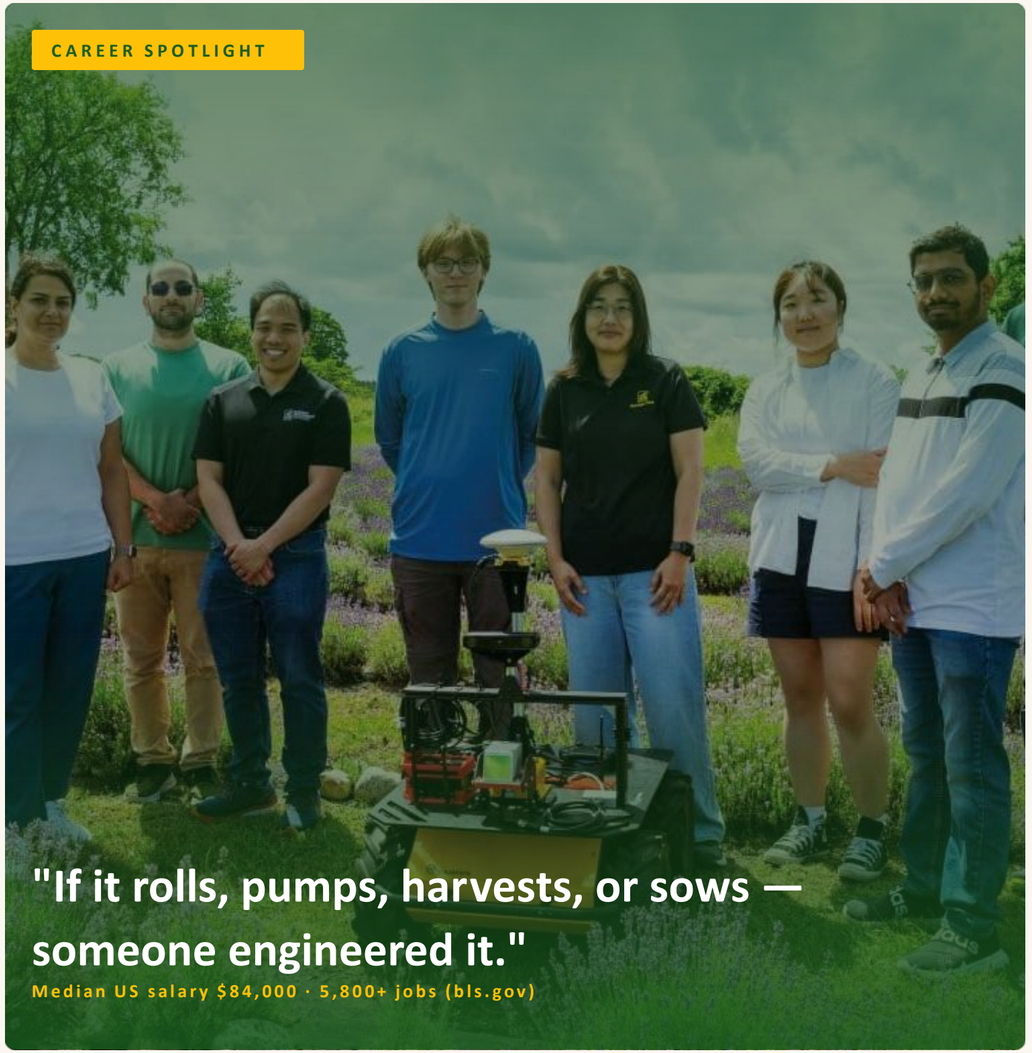
WHY IT MATTERS

India's smallholder reality — **120 million farms under 2 ha.** — is a HARDER engineering challenge than U.S. row-crop agriculture. AI systems built here map to **Africa, Southeast Asia,** and **Latin America** — a ~$400B untapped software market.

Source: Nasscom Agritech Report 2024 · FASAL company filings · AgroStar Crunchbase

Agricultural Engineering

Engineers who put ideas in the dirt — designing the machines, buildings, and systems farms depend on.



WHAT THEY BUILD

4 Example Projects

01 · IRRIGATION

Precision irrigation

Variable-rate drip systems cut water use 30%.

02 · ENERGY

Biogas digesters

Turn manure and crop waste into farm-scale electricity.

03 · VERTICAL

Vertical farms

LED-lit hydroponic towers that grow food indoors. indoors.

04 · POST-HARVEST

Storage & processing

Cold-chain & drying systems that reduce post-post-harvest loss.

CORE SKILLS

Mechatronics
sensors · motors · control

CAD & Design
SolidWorks · 3D modeling

Fluid Dynamics
pumps · pipelines · soil water

Four Roles That Pair Code With Soil

01 DATA SCIENTIST

Agronomist Data Scientist

TYPICAL DAY

Build yield-prediction models from soil, climate, and satellite imagery. Spend 50% on data prep, 30% on modeling, 20% meeting growers.

ENTRY PATH

BS in CS, Stats, or Agronomy + Python portfolio.

02 REMOTE SENSING

Remote Sensing Analyst

TYPICAL DAY

Process satellite & drone imagery to detect drought stress, stress, pest outbreaks, and flooding. Deliver weekly maps maps to county extension agents.

ENTRY PATH

BS in Geography, GIS, Earth Science; learn QGIS / GEE.

03 ML ENGINEER

ML Engineer for AgTech

TYPICAL DAY

Productionize disease-detection models. Deploy to mobile, mobile, monitor drift, write tests, push updates through through CI/CD.

ENTRY PATH

BS/MS CS, deep ML + cloud (AWS/GCP) skills.

04 FIELD ROLE

Precision Ag Specialist

TYPICAL DAY

Translate models into field prescriptions. Visit farms, talk talk with farmers, calibrate equipment, write grower-grower-friendly reports.

ENTRY PATH

BS in Agronomy + data literacy; sales & people skills.

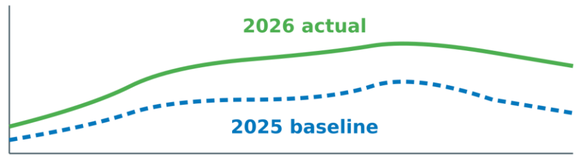
DASHBOARD MOCKUP

Field 7 Yield Forecast

YIELD
+18%
vs. last year

MOISTURE
34%
optimal range

NDVI Time Series · Field 7



ACTION ALERT

Field 4 · Section B shows declining NDVI. Schedule scouting visit scouting visit Thursday.

BLS OUTLOOK

Data Science roles — +36% growth projected 2023–33. Median US salary $108,000.

Source: bls.gov · occupation 15-2051

Four AgTech Startups You Should Know

Each began with one observation, a small team, and a customer who believed in the idea.

INDIGO

Indigo Ag

CARBON FARMING

Microbial seed treatments that boost yields — and now credits for soil carbon sequestration.

HoneycombÁ Marketplace

Pays farmers for storing carbon in their soil.

Boston, MA · Founded 2014 · 1,000+ employees

TULE

Tule

IRRIGATION ANALYTICS

Field sensors + AI that tell growers exactly how how much water their crops actually use.

Actual ET measurement

Replaces generic irrigation calendars with crop-specific data.

Davis, CA · Founded 2014 · Acquired by CropX 2022

PIX

Plantix

DISEASE DETECTION AI

Snap a photo of a sick plant — the app diagnoses diagnoses 400+ diseases and recommends recommends treatment.

10M+ downloads

Mostly smallholder farmers in India, Africa, and SE Asia.

Berlin, Germany · Founded 2015 · PEEC platform

C·Ai

ClimateAi

CLIMATE RISK FORECASTING

Models that re-plan supply chains as warming warming shifts when and where crops can be be grown.

Used by Nestlé & Bayer

"ClimateLens" platform scorecards sourcing regions 1–10 years out.

San Francisco, CA · Founded 2018 · Series B

Your Skills Decide Your Role

SKILL CATEGORIES

01 · BIOLOGY
Plant Science
soils · pests · breeding

02 · DATA
Data & AI
stats · ML · sensors

03 · ENGINEERING
Engineering
mechatronics · CAD

04 · BUSINESS
Business
agronomics · sales

05 · COMMUNICATION
Communication
extension · writing

11 SPECIFIC ROLES

Pick a target — then reverse-engineer.

Most of these roles require 2–3 skills stacked together. Choose Choose the role first — your major will follow.

- Researcher
- Agronomist DS
- ML Engineer
- Ag Engineer
- Remote Sensing
- AgTech founder
- Extension Officer
- Policy Analyst

PART 3 · HANDS-ON

Class Activities

Two hands-on exercises to close out Week 6.

ACTIVITY 1 ·
Build a Research Poster

ACTIVITY 2 ·
Design Your Career Path

ACTIVITY 1 · 25 MINUTES

Build a Research Poster in 25 Minutes

Pick any agricultural question. Use AI to help — but cite what you copied.

1 **Outline** 8 MIN

Pick a question + draft the 5 panels. One sentence per panel.

2 **Populate** 5 MIN

Bring in chart / figure / data — AI-generated or hand-drawn.

3 **Design** 5 MIN

White space > busy background. Title > 60pt. Body > 24pt.

4 **Peer review** 5 MIN

Swap with another team. Can they read your Result from 1m away?

5 **Share-out** 2 MIN

Question, method, result, take-home.

EXPECTED PANELS

- Title (top, full width)
- Problem / Why it matters
- Method (diagram > paragraph)
- Result (chart, biggest panel)
- Take-home message

GROUP ROLES · 4 PEOPLE

DESIGNER Layout & visuals	WRITER Words & citations
PRESENTER 60-sec share-out	TIMEKEEPER Keeps 25-minute clock

SCAN TEMPLATE & RUBRIC

QR

aas.org/poster-rubric
forms.gle/posters-2026

Rubric inspired by AAAS Poster Rubric · aaas.org/poster-rubric

ACTIVITY 2 · 15 MINUTES

Design Your Career Path in 15 Minutes

1. **List your 3 strongest skills**
   Be specific. "Python + soil chemistry + writing" beats "smart and hard-working."

2. **Map to a role from slide 16**
   Trace your 3 skills back through the diagram. Where do they meet?

3. **Identify one next step**
   A specific course, an internship, a side project, a person to email.

4. **Share with a partner**
   2 minutes each. Give one piece of feedback. Anchor the commitment out loud.

EXAMPLE PATHWAYS

Real Combinations That Work

S Sam
Plant Science + ML
→ Plantix Field Researcher

A Amara
BSE + Python
→ AgFunder AgTech Founder

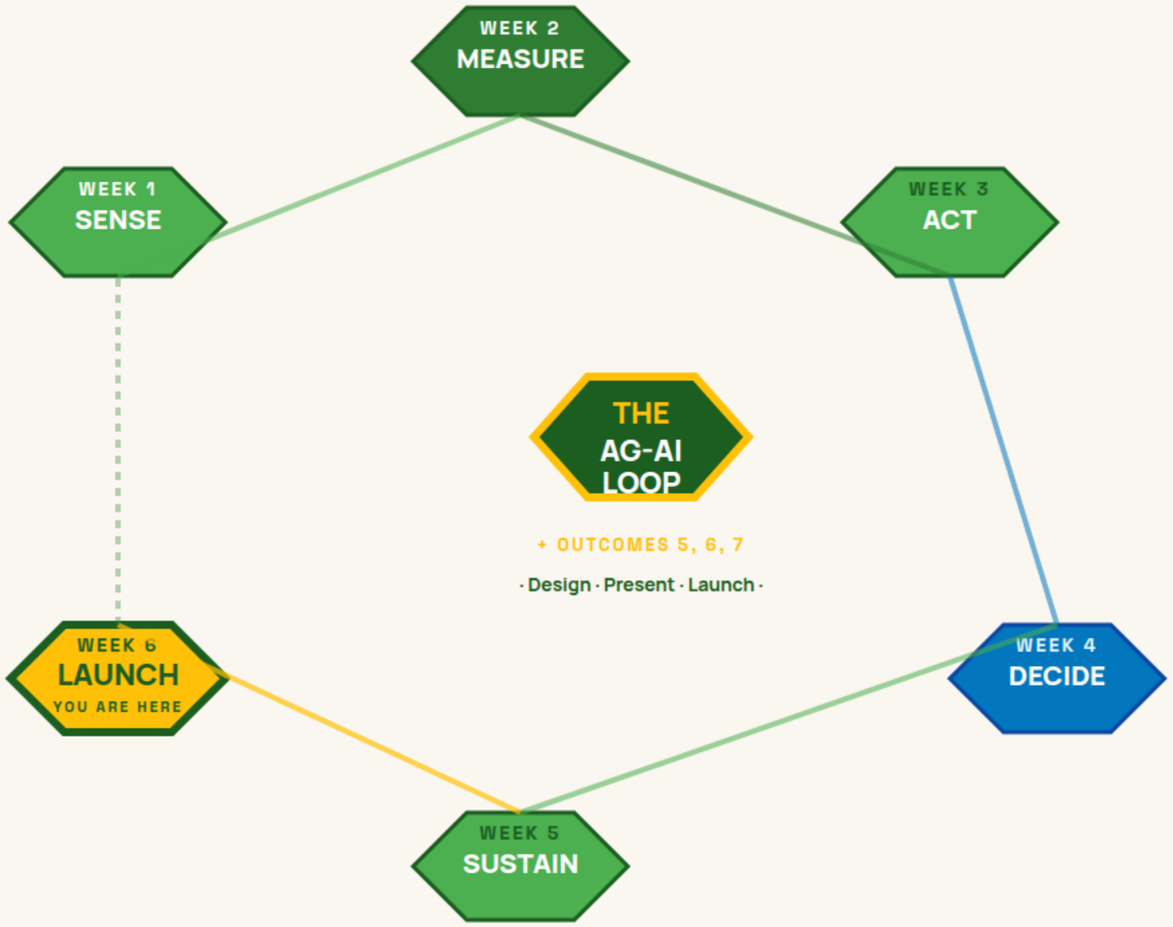
J Jordan
GIS + Stats
→ USDA-ARS Remote Sensing Analyst

M Maya
Communication + Biology
→ County Extension Officer

Reflect: *What is one thing you'll do this semester to move toward your chosen role?*

Sense → Decide → Act → Communicate → Launch

Six weeks. Seven outcomes. One mindset: data → decisions → real outcomes, then back to science.



7 OUTCOMES × 6 WEEKS

Where each one got built

OUTCOME 1 · AI IN AGRICULTURE
Week 1

OUTCOME 2 · SENSORS · DRONES · ROBOTICS
Weeks 2 + 3

OUTCOME 3 · INTERPRET AGRICULTURAL DATA
Week 4

OUTCOME 4 · CLIMATE-SMART PRACTICES
Week 5

OUTCOME 5 · DESIGN AN AI SOLUTION
Weeks 4 + 6 · Today

OUTCOME 6 · PRESENT FINDINGS
Week 6 · Today

OUTCOME 7 · EXPLORE CAREERS
Week 6 · Today

YOUR TURN · CLOSING REFLECTION

Reflect on Six Weeks. Then Act on It.

3 PROMPTS

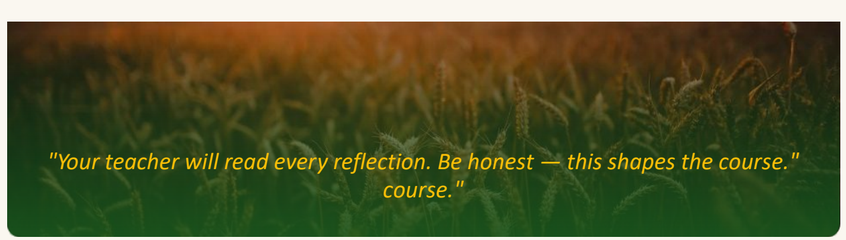
1. **What is the single most important thing you learned across these 6 weeks?**
   Pick one. The thing that changed how you see a farm.

2. **Where will you apply this learning next? — at school, at home, in a future job?**
   A specific action. A place. A deadline.

3. **Which of the 7 course outcomes do you feel strongest in now?**
   Be honest. Strength + next step.

SCAN TO SUBMIT

Reflection Form



Submission takes ~3 minutes. Done by end of class.

References & Further Reading

All sources cited in this lesson. Click through — every link resolves to a real, public page.

[1] · USDA-NIFA

USDA-NIFA (2025). Agricultural Research & Education.
nifa.usda.gov/grants

[2] · USDA INTERNSHIPS

USDA (2025). Pathways Internship Program.
usda.gov/internships

[3] · 4-H

National 4-H Council (2025). Youth Development Programs.
4-h.org

[4] · USDA-ARS

USDA-ARS (2025). Careers in Agricultural Research.
ars.usda.gov/careers

[5] · AAAS

AAAS (2024). Communicating Science Workshop.
aaas.org/programs/public-engagement

[6] · AAAS POSTER

AAAS (2024). Science Poster Rubric.
aaas.org/poster-rubric

[7] · KLERKX et al.

Klerkx, L., et al. (2019). Smart Farming Review. *Agricultural Systems*.
doi.org/10.1016/j.agsy.2019.04.001

[8] · FAO

FAO (2024). The State of Food Security & Nutrition.
fao.org/publications/sofi

[9] · CLIMATEAi

ClimateAi (2024). Climate Risk for Supply Chains.
climate.ai/research

[10] · INDIGO AG

Indigo Ag (2024). Carbon Farming & Soil Health.
indigoag.com

[11] · BLS OUTLOOK

BLS (2024). Occupational Outlook: Data Scientists.
bls.gov/oes/current/oes152051.htm

[12] · AGRICULTURAL ENG.

ASABE (2024). Agricultural & Biological Engineering.
asabe.org/careers

Four Doors You Can Walk Through Tomorrow

Pick the resource that fits what you're curious about — each one is free and open to students.

4H

YOUTH PROGRAMS

USDA AgLab & 4-H

National 4-H STEM programs include agronomy, robotics, and coding tracks. Local clubs meet in every U.S. county.

aglab.USDA.gov · 4-h.org

AI

ONLINE COURSES

AgriAI Specialization

Self-paced online AI courses applied to agriculture. Many are free for high-school students through partner platforms.

coursera.org/specializations/ai-for-agriculture

FFA

STUDENT ORGANIZATION

Future Farmers of America

Career-development events, supervised agricultural experiences (SAEs), and competitive scholarships. 1M+ student members nationwide.

ffa.org

U

LOCAL EXPERTS

County Extension Office

Free local expertise from your state's land-grant university. Soil tests, plant diagnostics, 4-H clubs, and youth research opportunities.

nifa.usda.gov/extension

AI IN MODERN AGRICULTURE

6 LESSONS · 7 OUTCOMES

Thank You.

"Science doesn't end with a slide. It starts with what you do next."

— SUMAYA SANOBER, PhD

JOURNALING QUESTIONS FOR THIS SUMMER

· What problem in agriculture would you love to work on? ·

· Who would you like to be doing it with? · What resources do you need? ·

· Which Week 6 outcome do you want to demonstrate first? · What is one step you can take this month?

Seven Outcomes · Proven

For each outcome: what we did across these six weeks to prove you can do it.

OUTCOME 1

Explain the role of AI in modern agriculture

Proven in Week 1 — the 6-week journey diagram and AI-to-agriculture sector overview.

OUTCOME 2

Describe sensors, drones, robotics, & analytics

Proven in Weeks 2 & 3 — IoT sensor data, computer vision dashboards, autonomous tractor demo.

OUTCOME 3

Interpret agricultural data to make decisions

Proven in Week 4 — crop-prediction model trained and validated on real yield data.

OUTCOME 4

Understand sustainable & climate-smart practices

Proven in Week 5 — carbon-sequestration case studies & climate-resilient crop analysis.

OUTCOME 5 · TODAY

Design a simple AI-based agricultural solution

Proven in W4 & W6 — you built a research poster + designed a 5-stage research model today.

OUTCOME 6 · TODAY

Present scientific findings effectively

Proven in W6 — 4-part pitch template + posters + peer-review + 60-second share-outs.

OUTCOME 7 · TODAY

Explore career pathways in AI, ag, engineering, data

Proven in W6 — mapped 4 skills to 11 roles + designed your own career path in 15 min.