

Growing up together in the AI era

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What I mean:

- ▶▶ AI is already transforming organizations and lives
- ▶▶ We need to figure out many questions for AI adoption
- ▶▶ Different sectors / organizations provide complementary strengths and perspectives
- ▶▶ We need to work together and “grow up” together in the AI era



57 National Championships in various sports

8000 faculty, 50,000 students

110 Graduate programs among top 10 in the US

>\$2B annual research expenditure

#1 (sometimes #2 or #3) public university by various ranking systems

Our AI Effort



The Michigan Daily

One hundred and thirty-four years of editorial freedom

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RESEARCH

UMich becomes first major university to develop its own generative AI

by Emma Spring, Amer Goel and Bronwyn Johnston
September 21, 2023

| FEBRUARY 3, 2025

| Date Modified: March 3, 2025

U-Michigan announces most advanced AI research complex with historic Los Alamos alliance

The planned facility for high-performance computing and AI research has secured \$100M from the state.

BY: [MICHIGAN ENGINEERING](#)

The Michigan Daily

≡ Menu

RESEARCH

UMich partners with OpenAI to fund and support faculty artificial intelligence projects

by Emma Sulaiman
March 17, 2025



One of the largest
POSTDOCTORAL
training programs
on AI for science

FACULTY
>660



>1000
STUDENTS

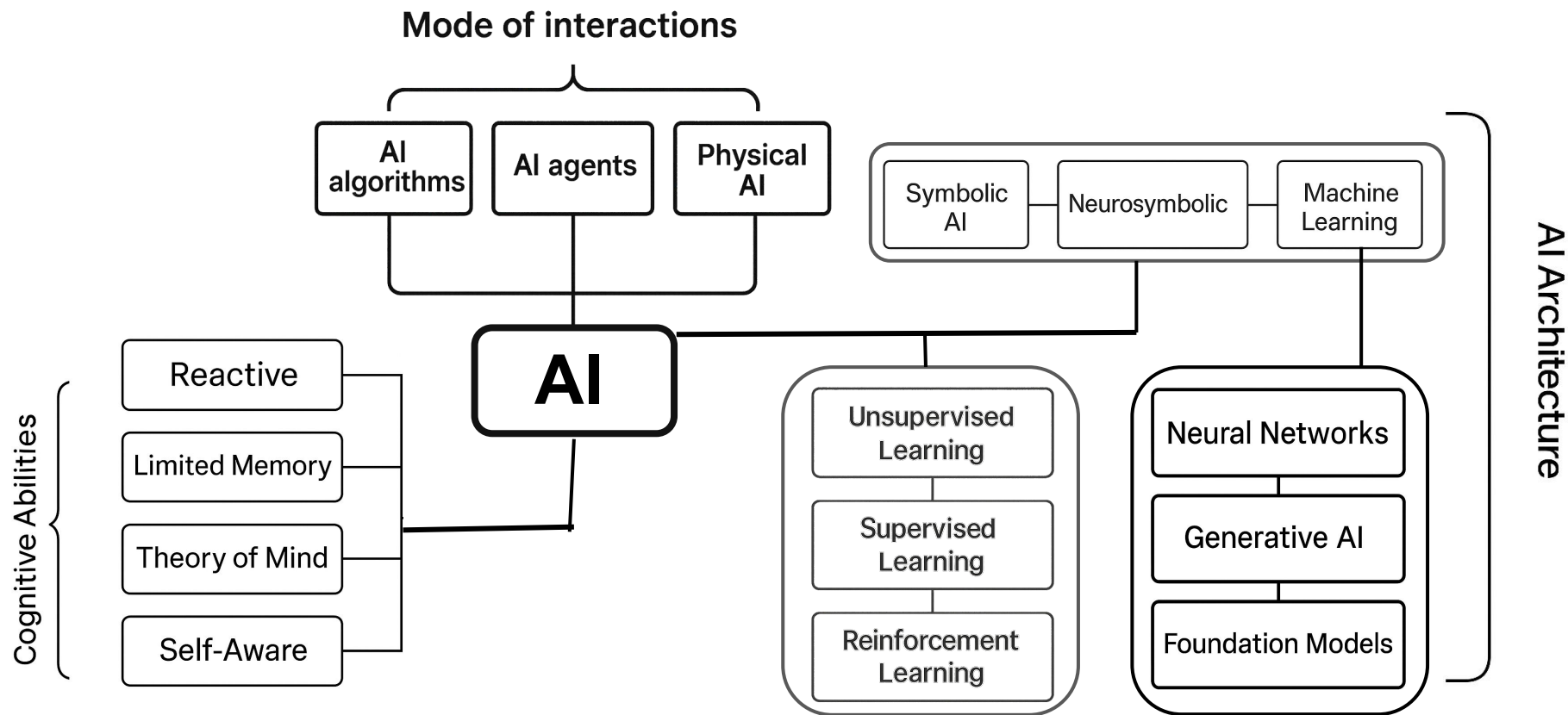
Research

Training

Collaboration

Adopt AI for research
Ensure trustworthiness of research
Reimagine academic research
Maximize societal impact

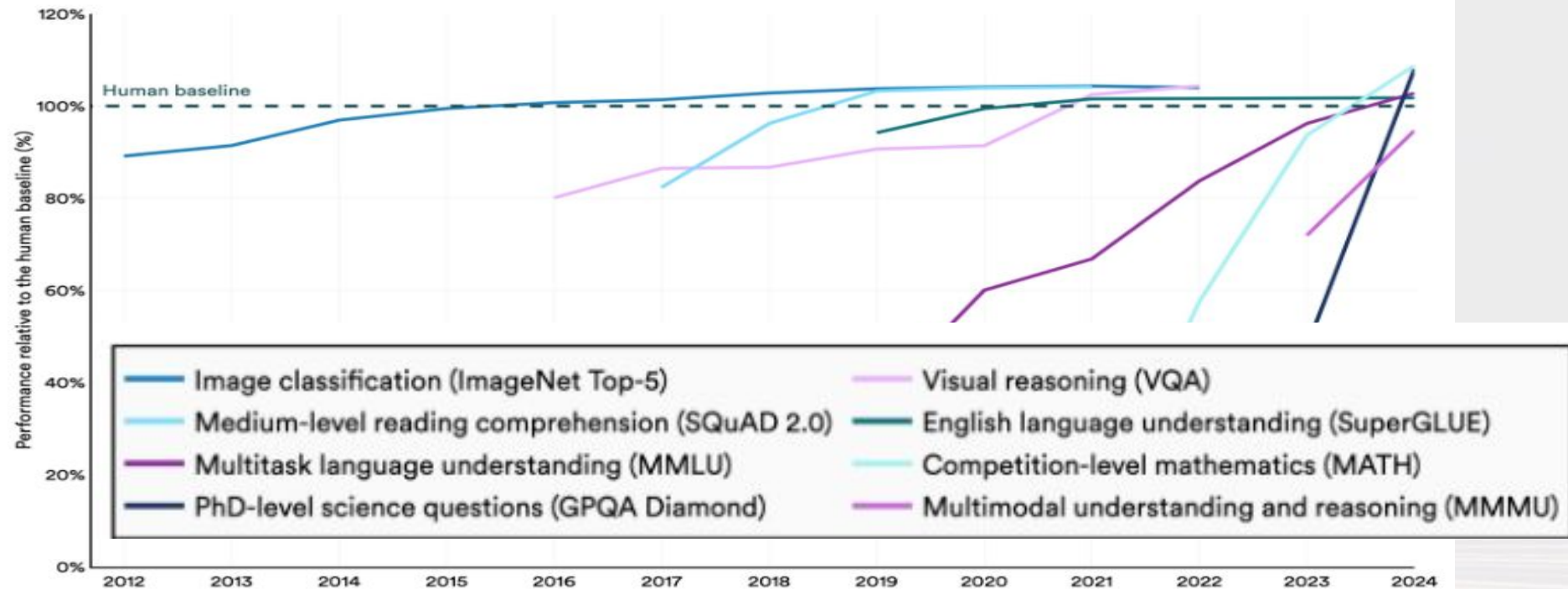
AI is Dazzling Us



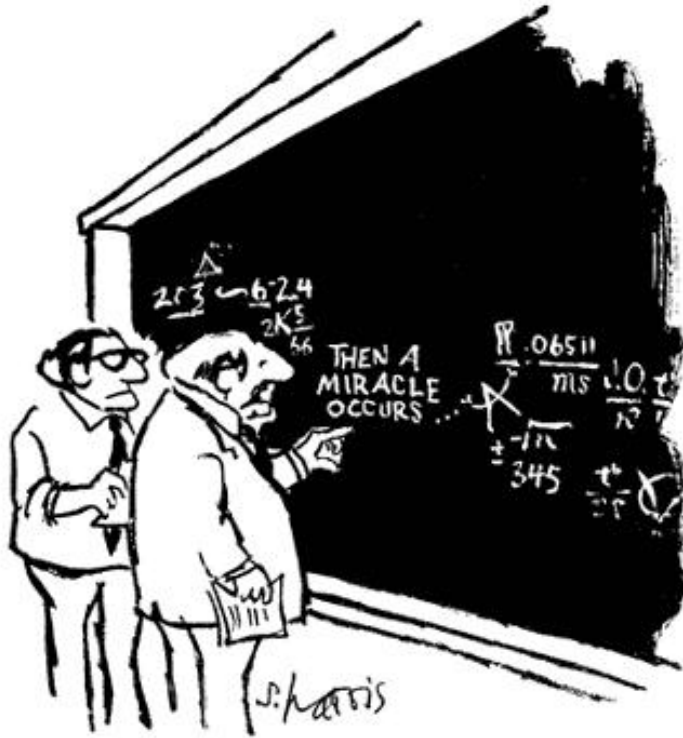
AI is Dazzling Us

Select AI Index technical performance benchmarks vs. human performance

Source: AI Index, 2025 | Chart: 2025 AI Index report



We Are All "Beginners"



"I think you should be more explicit here in step two."



"IT FIGURES. IF THERE'S ARTIFICIAL INTELLIGENCE, THERE'S BOUND TO BE SOME ARTIFICIAL STUPIDITY."

Sydney Harris cartoons

Are We in “the AI Wild West”?



“Growing Up Together” in the AI Era

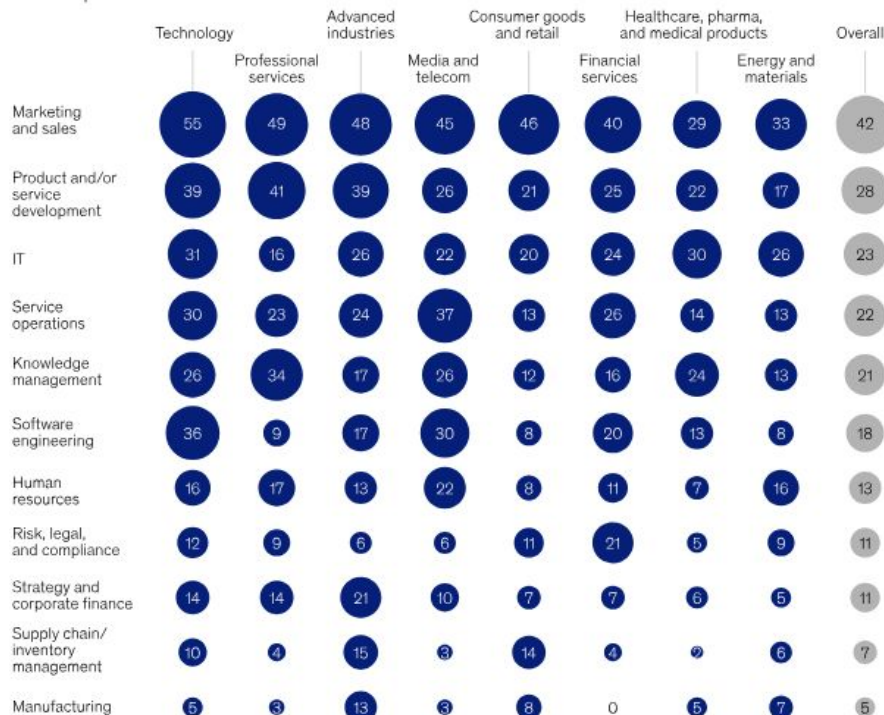
We are need to understand:

- ▶▶ What can AI do in my organization?
- ▶▶ What do we *want* AI to do?
- ▶▶ How can we make it happen and how can we do it right?
- ▶▶ Then what do *we* do?

Generative AI in Industry

Organizations across industries have begun to use gen AI in marketing and sales, though other uses vary by industry.

Business functions in which respondents' organizations are regularly using gen AI, by industry,¹
% of respondents

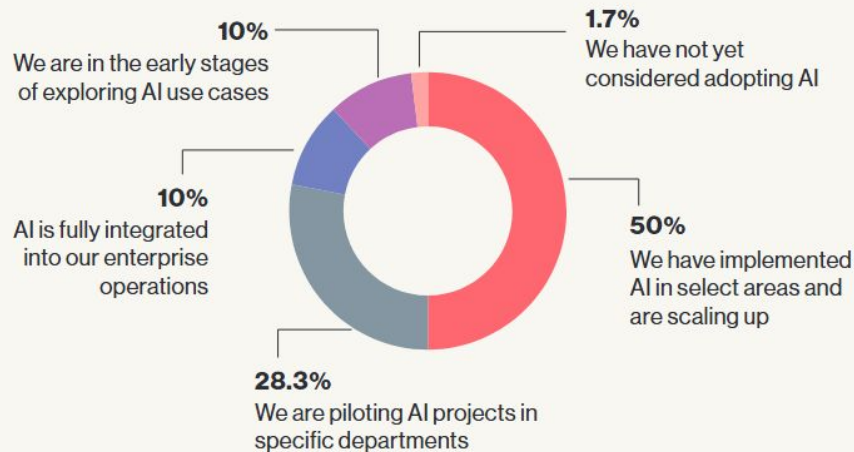


McKinsey and Company, 2025

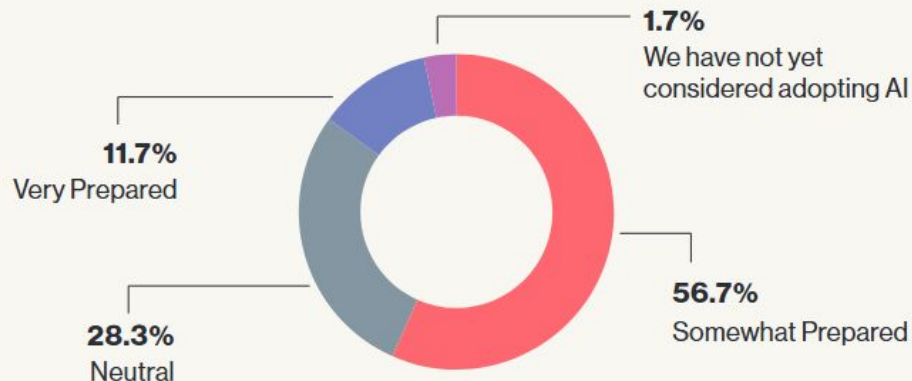
Organizational Preparedness - Industry



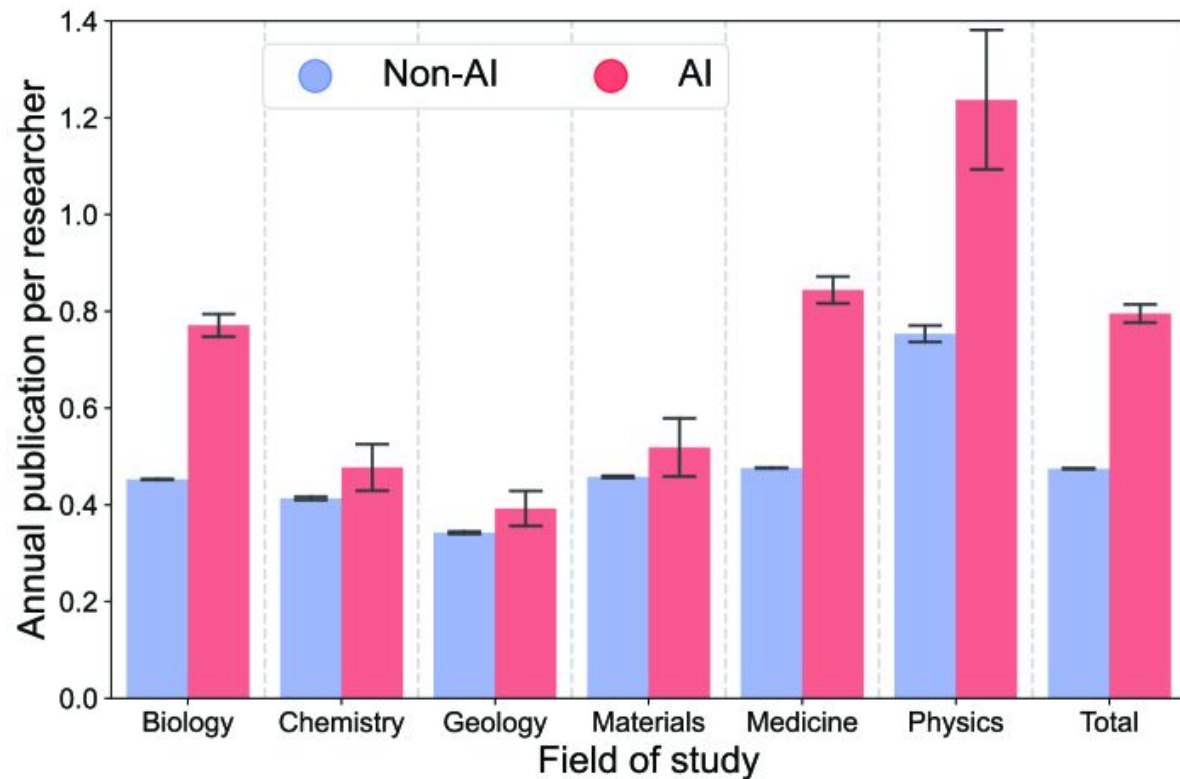
Regarding AI Adoption, where are you on your journey?



How prepared is your organization to adopt these emerging technologies?



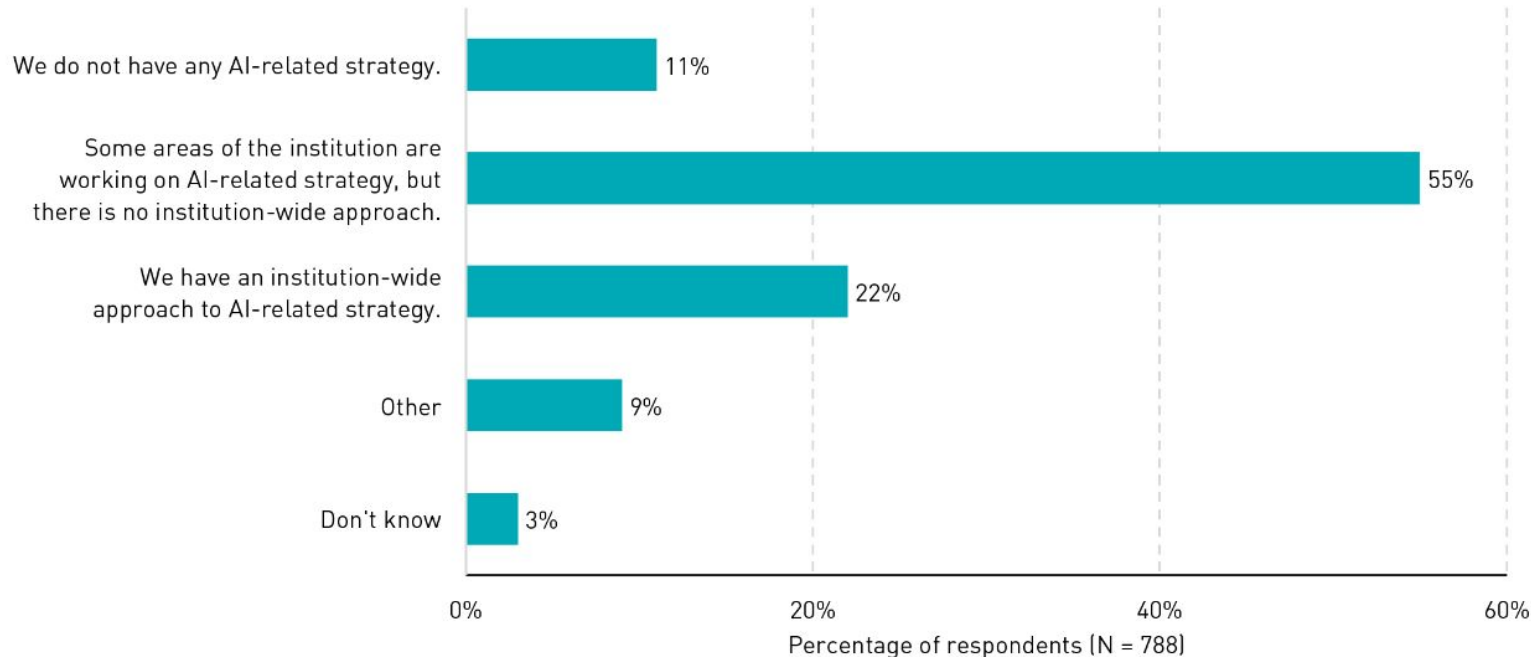
AI Lends Advantage to Scientific Researchers



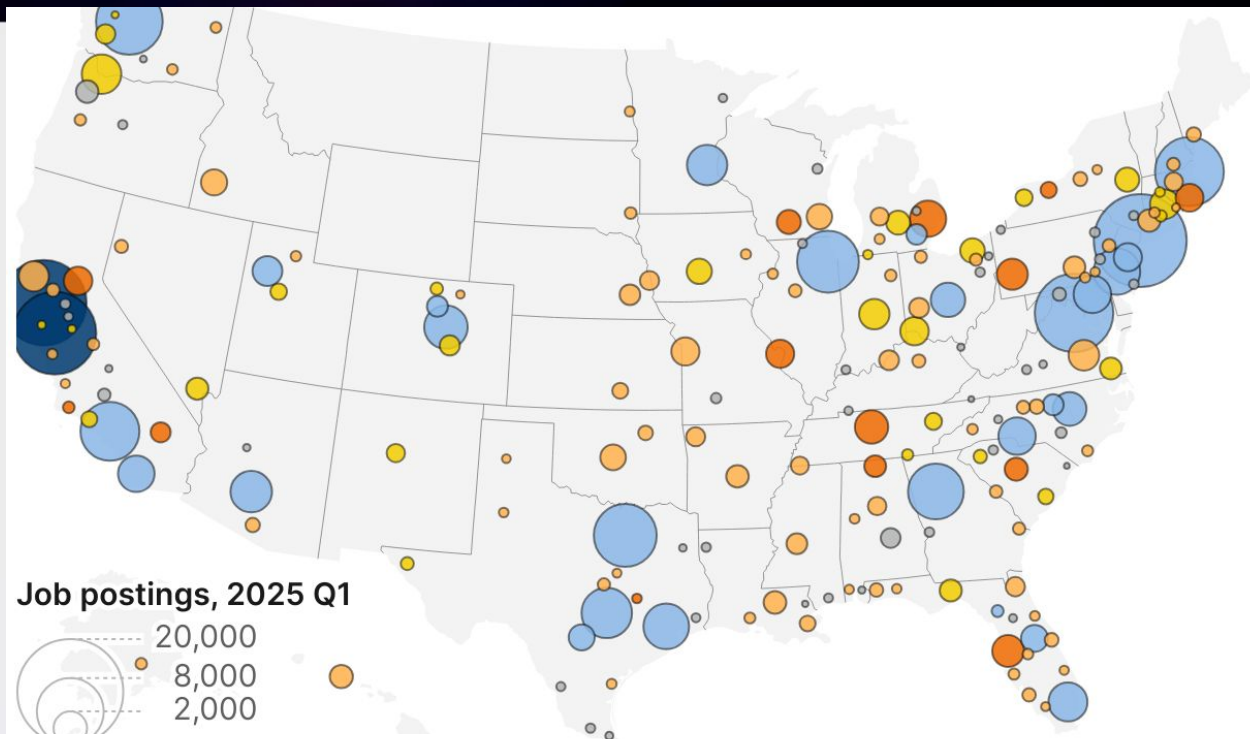
Organizational Preparedness - Higher Ed



Figure 2. Institutions' Approaches to AI-Related Strategy



Where We Are



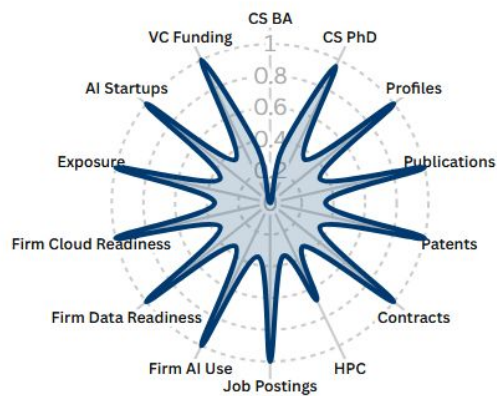
AI cluster type

■ Superstars ■ Star Hubs ■ Emerging Centers ■ Focused Movers ■ Nascent
■ Adopters ■ Others

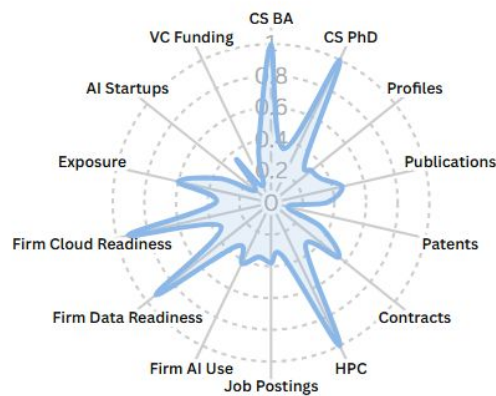
b posting data from Lightcast.

Resources, Implementation, Results

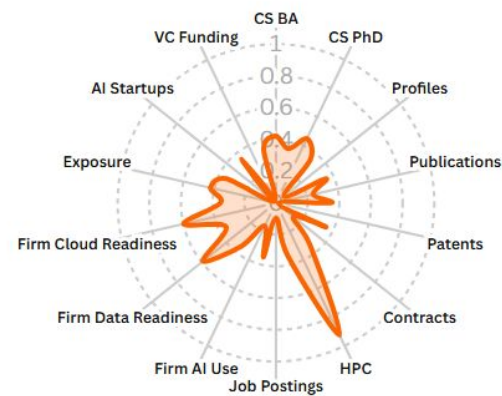
Superstars



Star Hubs



Emerging Centers



Organizational Considerations

Mission

Where to implement AI
Trustworthy output
How to apply insight and what we want to achieve

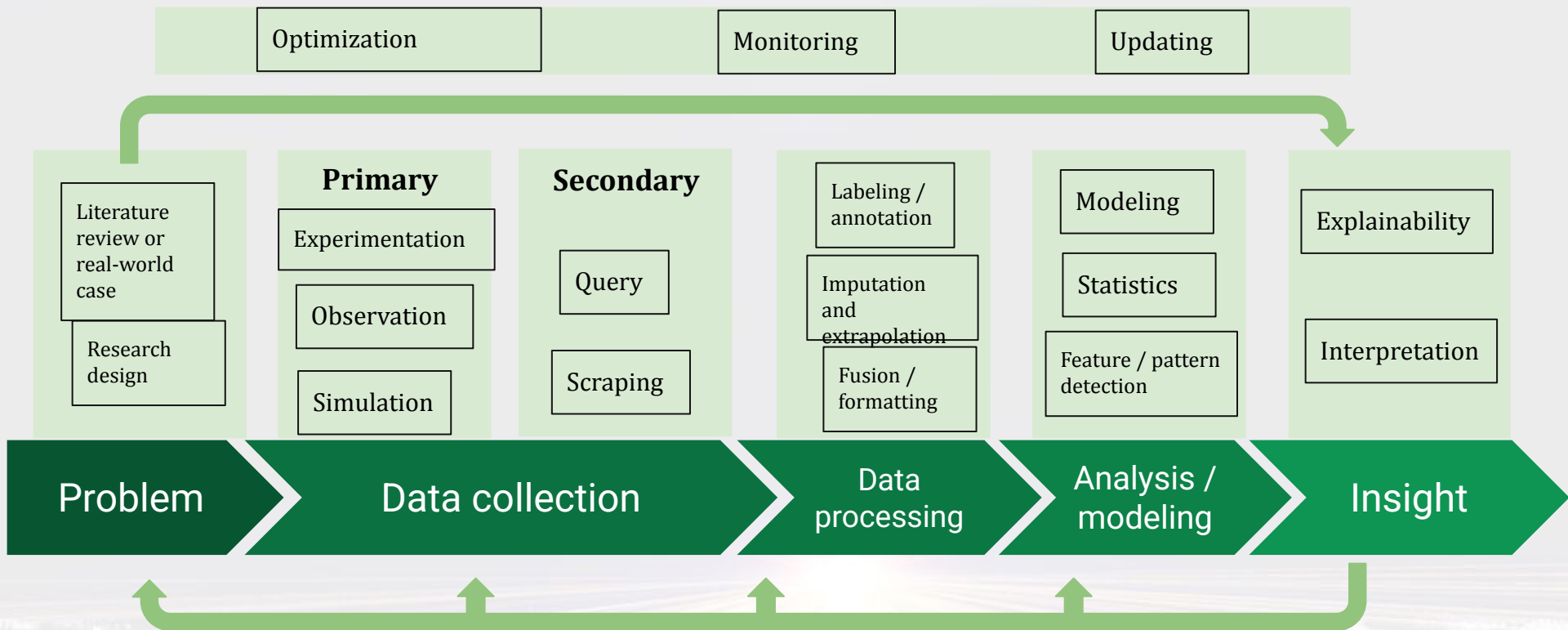
Capacity

Talent
Infrastructure: data, compute, models
Cost and resources
Security and risk management

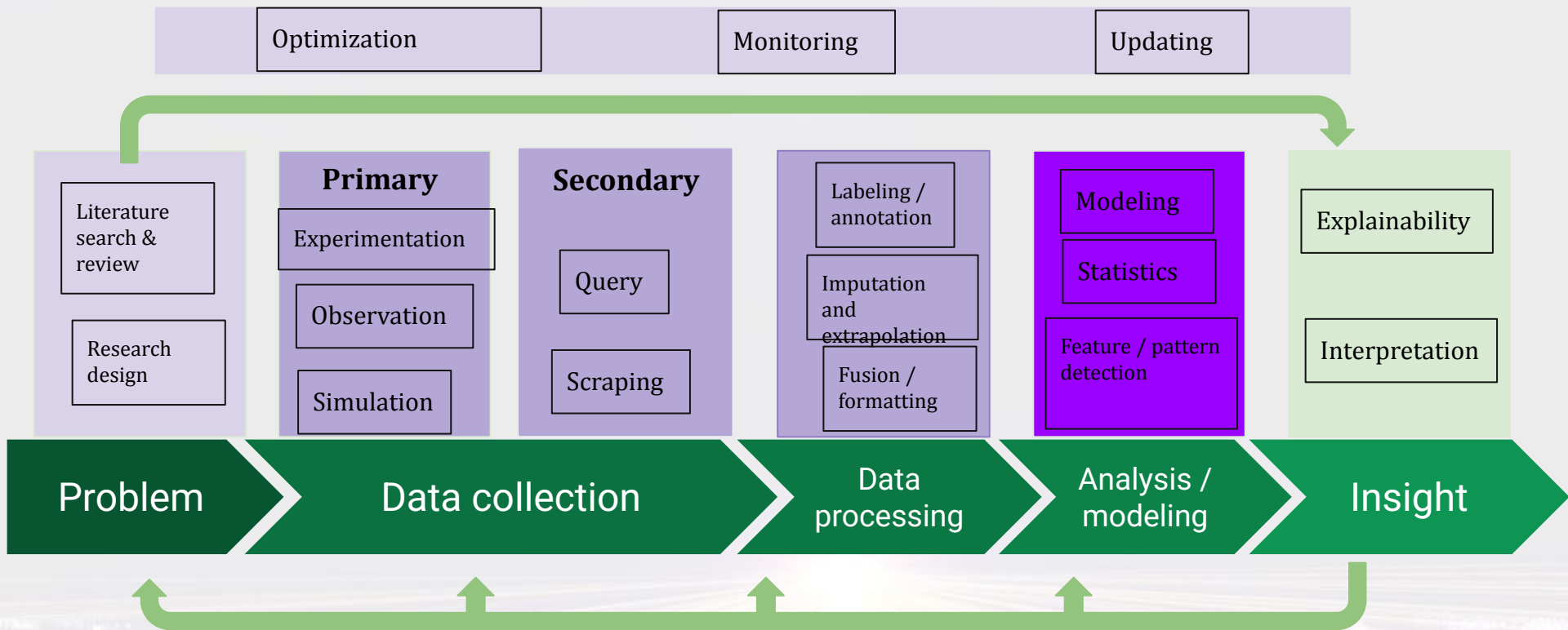
Culture

Why do we want to implement AI?
Change management to keep up with AI advancement
Organization and processes
The future of work and the value of work

Research Process



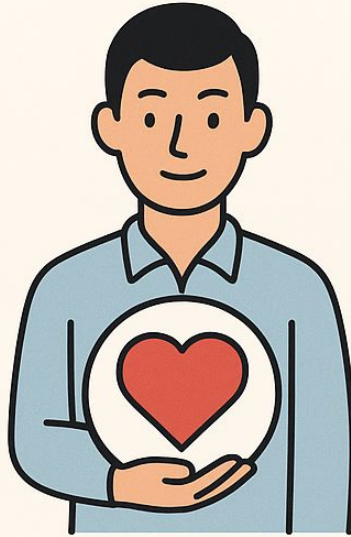
How AI Is “Taking Over”



Why We Work



To earn a
paycheck



To contribute
to society



It's part of
our identity



We
enjoy it

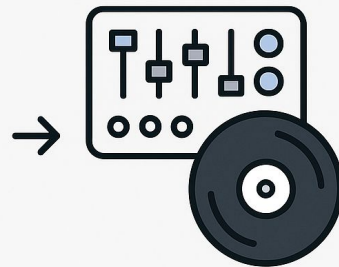
Why We Work



**Creative
Idea**



**Music
Composition**



**Music
Production**



Why We Work



**Creative
Idea**



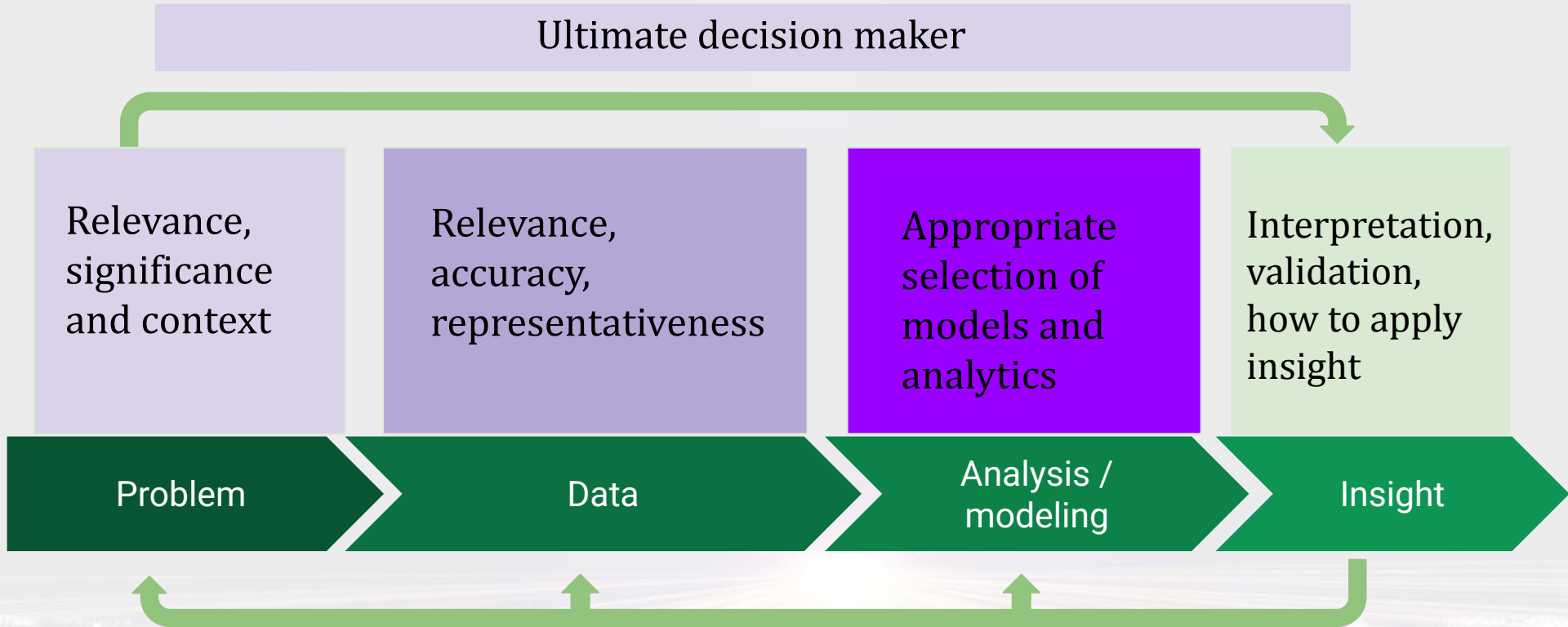
**Research
Process**



**Research
Outcome**



What We Should Do



“Growing up Together” in the AI Era



Talent

Future innovation

Independent
perspective



Technology

Scale

Resource



Context and public
mission

Societal needs

Public data

Case Study - R&D Co-design

Collaborative Design of Data and AI Systems for Science and Society (NSF funding)

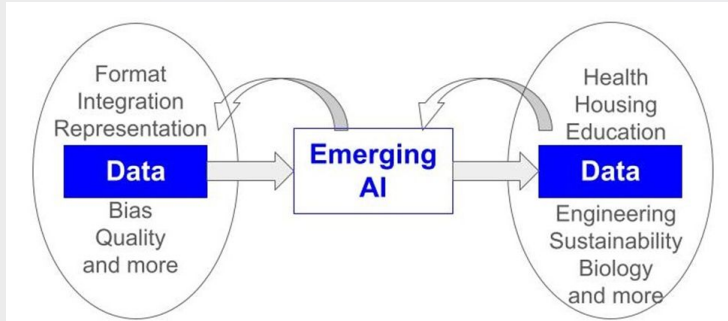


Figure 1. Coordinated database and AI research to support a virtuous data-AI cycle.

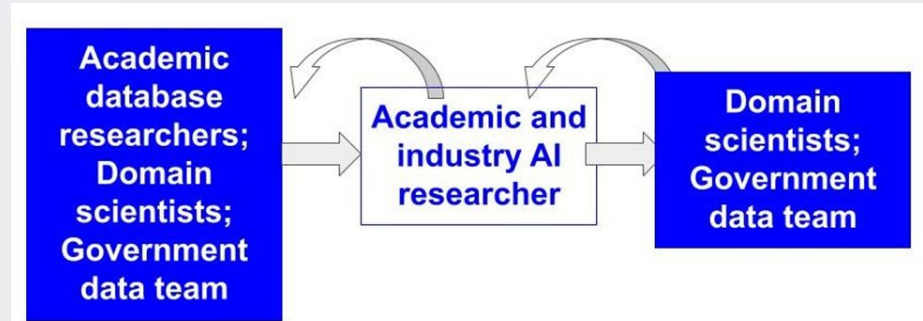


Figure 2. The participants of the R&D direction co-design project.

University of Michigan: database researchers, AI researchers, database developers, database and AI end users across research domains.

Microsoft: database researchers, AI researchers.

Detroit: city government database and AI end users.

Case Study - R&D Co-design

Workshop #1

All participants:

- Get to know each other
- Share previous collaboration experiences
- Identify challenges in collaboration development
- Propose research project ideas



Case Study - R&D Co-design

Workshop #2

All participants:

- Bring in more collaborators / organizations
- Determine the scope and deliverables of three projects
 - Detroit: context and impact
 - U. Michigan: research feasibility, methodology and rigor
 - Microsoft: Rapid implementation



Case Study - R&D Co-design

Workshop #3

Microsoft: Led a hackathon to develop prototypes for three projects

- Chatbot for better city service
- Computer vision for city planning
- ML for flood risk prediction

Detroit: Lead the effort for data access

All:

- Brought decision-makers from all organizations



Case Study - Responsible AI

Microsoft

Provide: funding

Benefits:

Choose faculty-initiated projects
Know the academic perspective
Know the newest research

U. Mich

Provide:

Coordination
Research expertise
Original and innovative research

Benefits:

Research resources
Know the industry perspective

Current projects

Human- AI framework for responsible AI

Responsible AI for the criminal legal system

Fairness and bias in education AI models

Human-AI teaming to support online knowledge community

Data centers and renewable energy

AI systems to combat non-consensual intimate images

Assessing the proper level of reliance on LLM output

Case Study - Responsible AI

Rocket

Provide: funding

Benefits:

Connection with academic
research community
Constant feedback for their work
Know the newest research

U. Mich

Provide:

Coordination
Research expertise
Original and innovative research

Benefits:

Research resources
Know the industry perspective

One postdoctoral fellow

- » Freedom to pursue original research on “responsible AI”
- » Liberty to publish research
- » Attending weekly tech team meetings at Rocket Companies

“Growing Up” Together

Shared stakes call for

sharing perspectives

sharing resources

concerted effort

