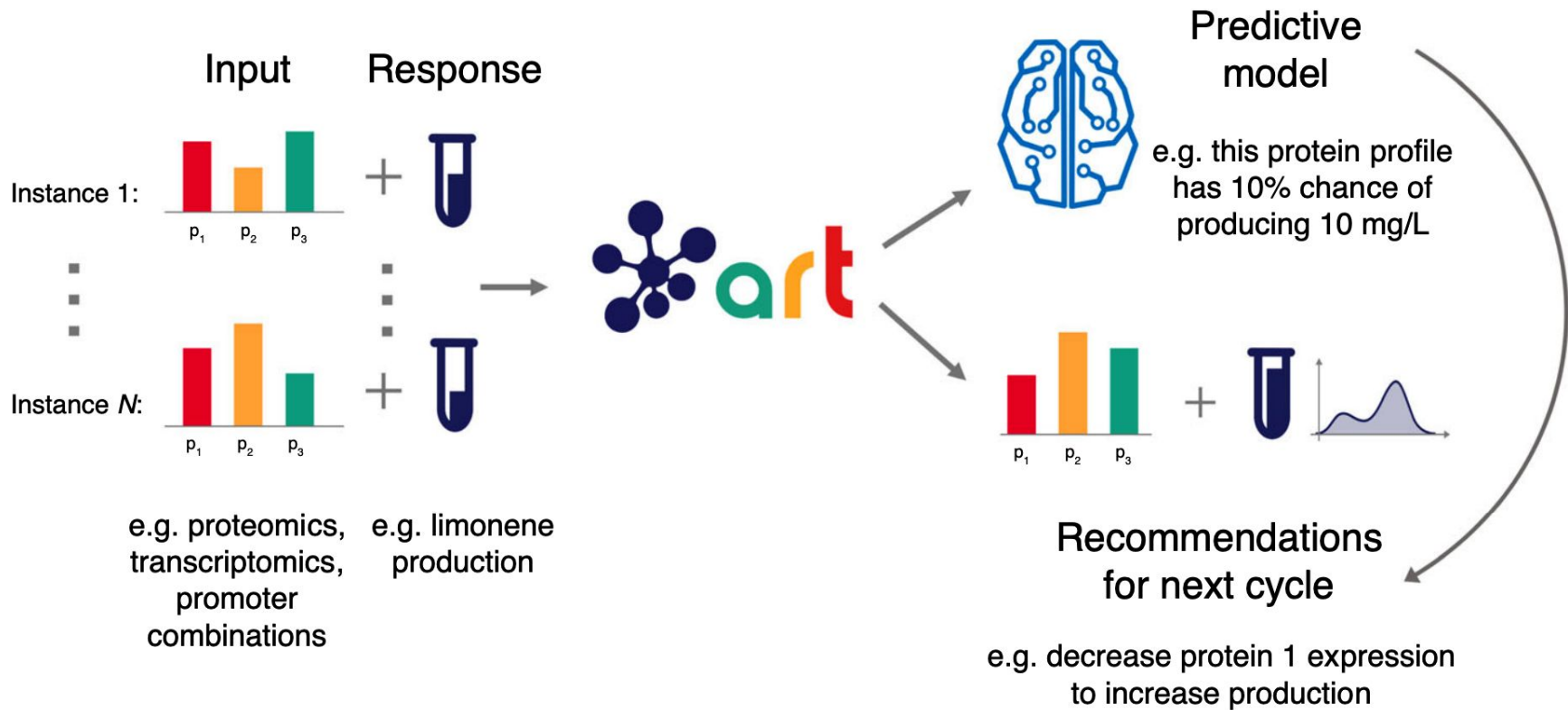


Automated Recommendation Tool (ART) Machine Learning for Synthetic Biology

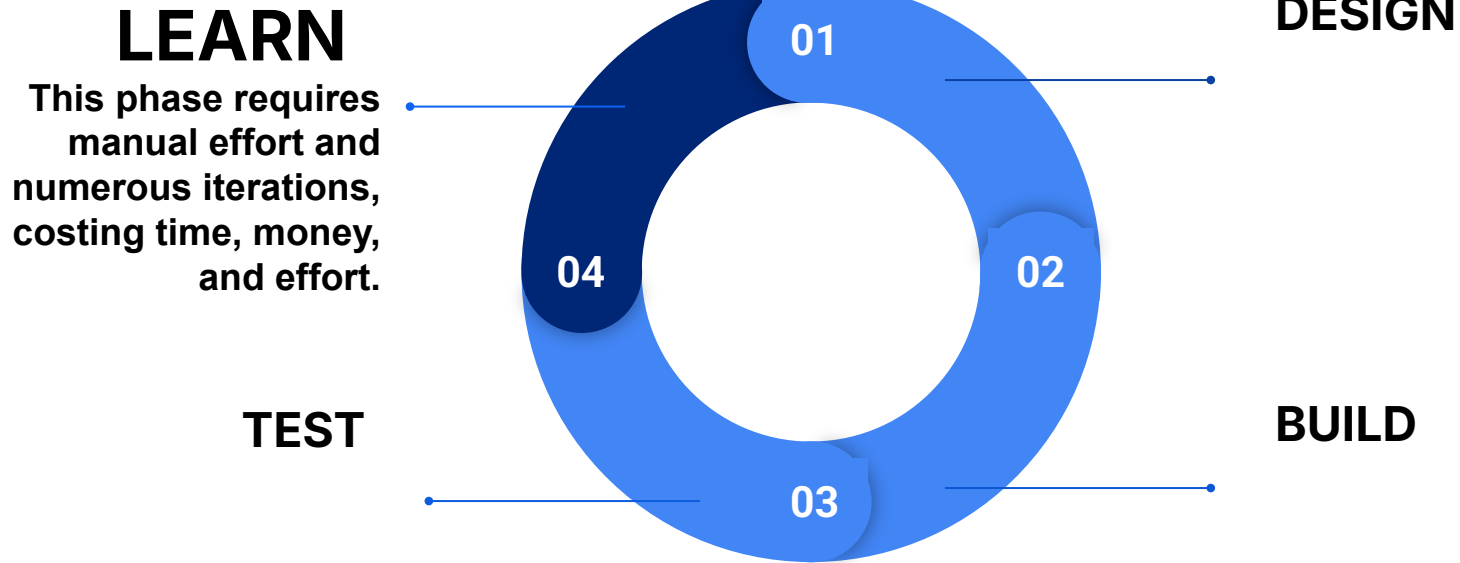


UC Berkeley

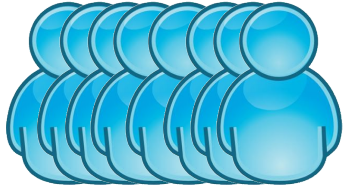




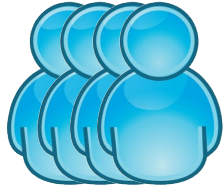
Current Standard - DBTL Cycle



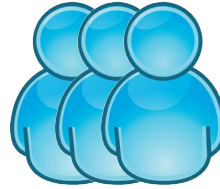
Stakeholder Interviews



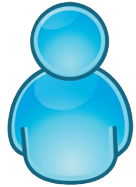
8 Scientific Executives /
Directors / Leads



4 Scientists/Engineers



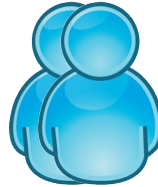
3 VCs



1 Business Executive



1 Consultant



2 Sales

In general, there is a consensus that the **learn cycle is currently a significant pain point** , and **most efforts to streamline this process have not been effective.**

Emphasizing that **ART** holds **immense market potential** , but it **must effectively demonstrate its values** .

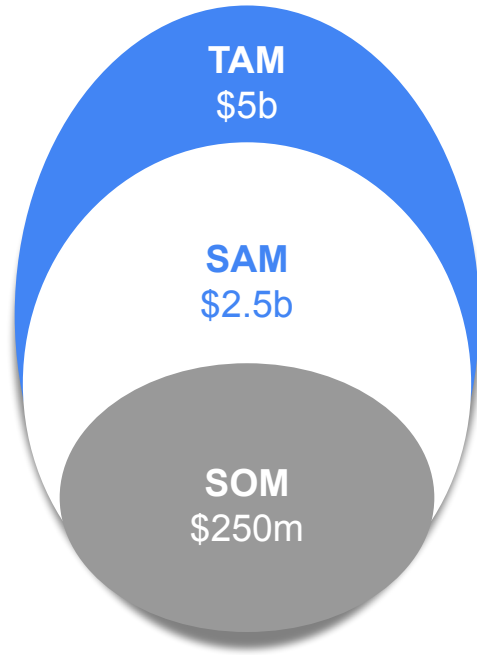
Market Application Areas

	<i>Pharma and Therapeutics</i>	<i>Food and Agriculture</i>	<i>Industrials (chemicals, materials, textiles, automotive, and coatings)</i>
<i>Market Size and Investment</i>	Large and growing ; high level of continued R&D investment	Lower relative startup investment; less profitable application area	Moderate levels of R&D investment; continued strong growth
<i>Cost Savings Potential from ART</i>	High potential : High production costs offer ample cost savings potential	Low potential : Lower relative production costs offer less cost savings potential	High potential : High production costs offer ample cost savings potential
<i>Confidence</i>	Medium	High	High
<i>Conclusion</i>	Strong Fit	Weak Fit	Strong Fit

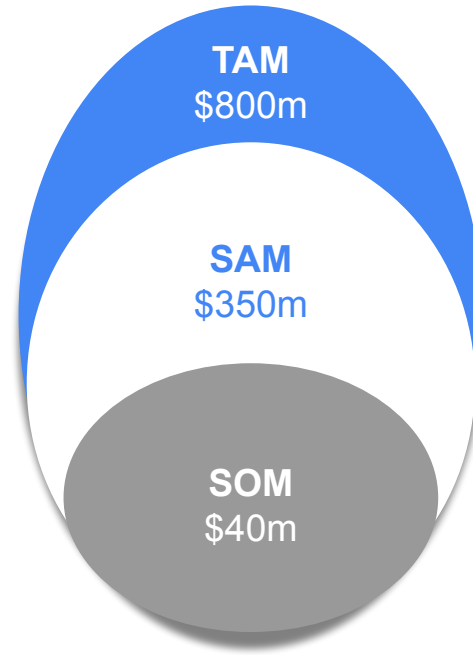
Focusing on high-value application areas will enable ART to build up data assets within a particular discipline

Application Areas by Market Size

Pharma and Therapeutics



Industrials



Average startup dollars raised yearly by application area

x 50% budget dedicated to R&D

x 10% R&D budget dedicated to software tooling

Student Team:



Dr. Hector Garcia
Martin (Inventor)



Robin Johnston
(TCO)



Kamand Shafieha
(MEng)



Shandion Santoso
(MEng)



Suraj Sehgal
(MBA)



Matthew Rappaport
(Student Mentor)



Leah Edwards
(Student Mentor)



William Vo (MTM)



Jennifer Shook
(MBA)



Syn Ong (LLM)