



Shaping the Innovation Ecosystem -
Role of Universities, Founders, Accelerators,
Funders, and the Government

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Role of Universities

Role of universities in **shaping the innovation ecosystem**:

Human capital development

- Embed new courses in the curricula
- Provide supplemental training for graduates
- Research and development

Academic strategies

- Multidisciplinary
- Project-based learning
- Teamwork

Commercialization

- Lab to market
- Build-Learn-Measure
- Market oriented innovation

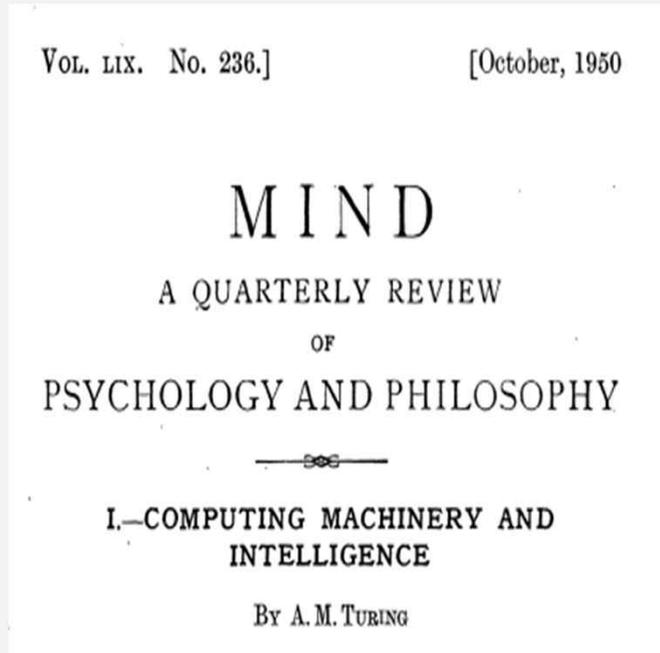
Era of AI

Google CEO Sundar Pichai says artificial intelligence is going to have a bigger impact on the world than some of the most ubiquitous innovations in history:

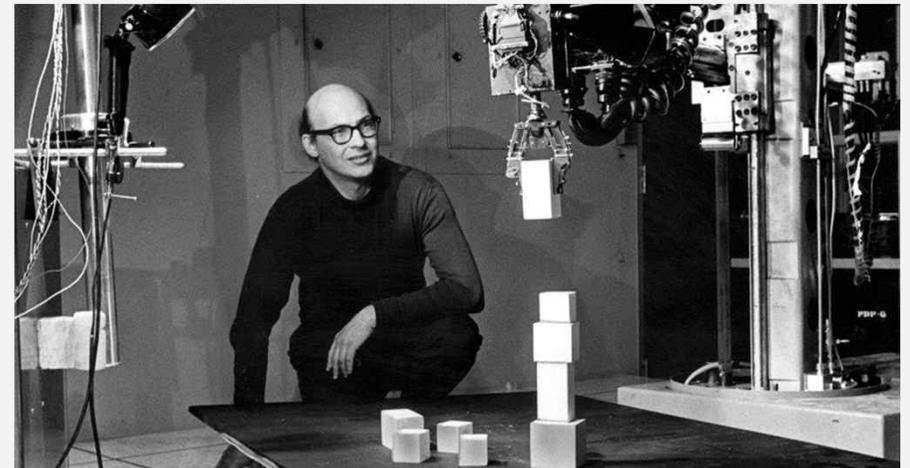
"AI is one of the most important things humanity is working on.

It is more profound than, I dunno, electricity or fire."

Birth of AI



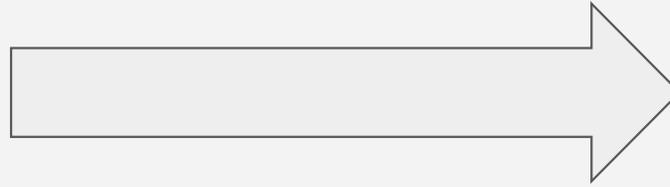
Turing 1950



McCarthy - Minsky 1956

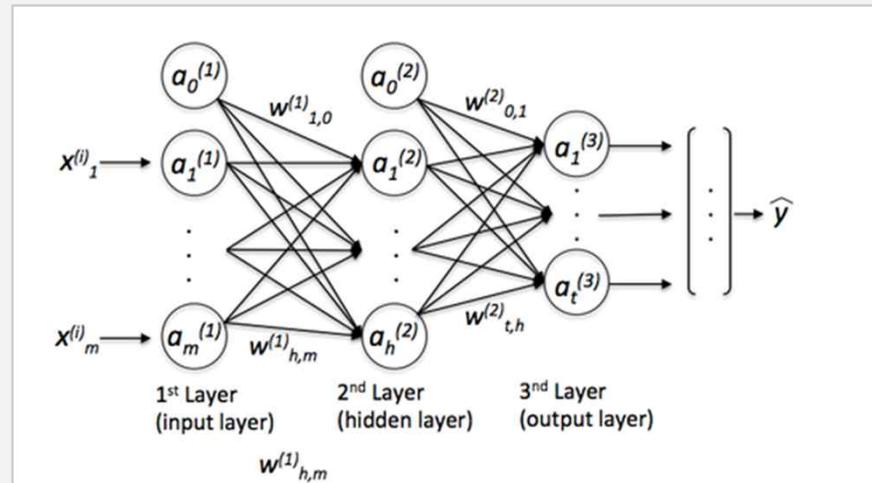
Re-Birth of AI

Turing 1950



Today 2021

- Billions of connected things
- Deluge of data
- Application integrity
- Computing power



Data 8

<https://data.berkeley.edu/education/courses/data-8>

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Data 8: Foundations of Data Science

Data 8

What is it?

- A new lens through which to explore the issues and problems in the world.
- Core concepts of inference and computing, while working hands-on with real data.

Who is it for?

- The course is designed for entry-level students from any major.
- It is designed specifically for students who have not previously taken statistics or computer science courses.

What are the prerequisites?

- None.

Why should taking this course?

- In a world in which we're surrounded by data, this course enables students to combine that data with Python programming skills
- to ask questions and explore problems that encounters in any field of study, in a future job, and even in everyday life.

Multidisciplinary

[https://data.berkeley.edu/academics/data-science-undergraduate-studies/
data-science-major/requirements-domain-emphases-1](https://data.berkeley.edu/academics/data-science-undergraduate-studies/data-science-major/requirements-domain-emphases-1)

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Requirements: Domain Emphases

Multidisciplinary

What are Domain Emphases?

- Domain Emphases give students a grounded understanding of a particular domain of data-intensive research, relevant theory, or an integrative intellectual thread.
- A Domain Emphasis course should bring the data science student into the context of a domain.
- The student needs to become able to build the bridges with data science to different domains.

	Applied Mathematics & Modeling		Linguistic Sciences		Environment, Resource Management, and Society		Quantitative Social Science
	Business and Industrial Analytics		Molecular Biology and Genomics		Evolution and Biodiversity		Robotics
	Cognition		Neurosciences		Geospatial Information and Technology		Science, Technology, and Society
	Computational Biology Methods		Organizations and the Economy		Human Biology		Social Welfare, Health, and Poverty
	Data Arts and Humanities		Philosophical Foundations: Evidence and Inference		Human and Population Health		Social Policy and Law
	Ecology and the Environment		Philosophical Foundations: Minds, Morals, and Machines		Human Behavior and Psychology		Sustainable Development and Engineering
	Economics		Physical Science Analytics		Inequalities in Society		Urban Science

Innovation Ecosystem

- Academic Program
 - Graduate and Undergraduate Programs
 - Research and Development
- Professional Development
 - Supplemental Training
 - Mentorship
- Innovation Hub
 - Acceleration Program
 - Market Development