

### Al at LinkedIn:

## **Connecting Members with Opportunity at Scale**

Mary Hearne

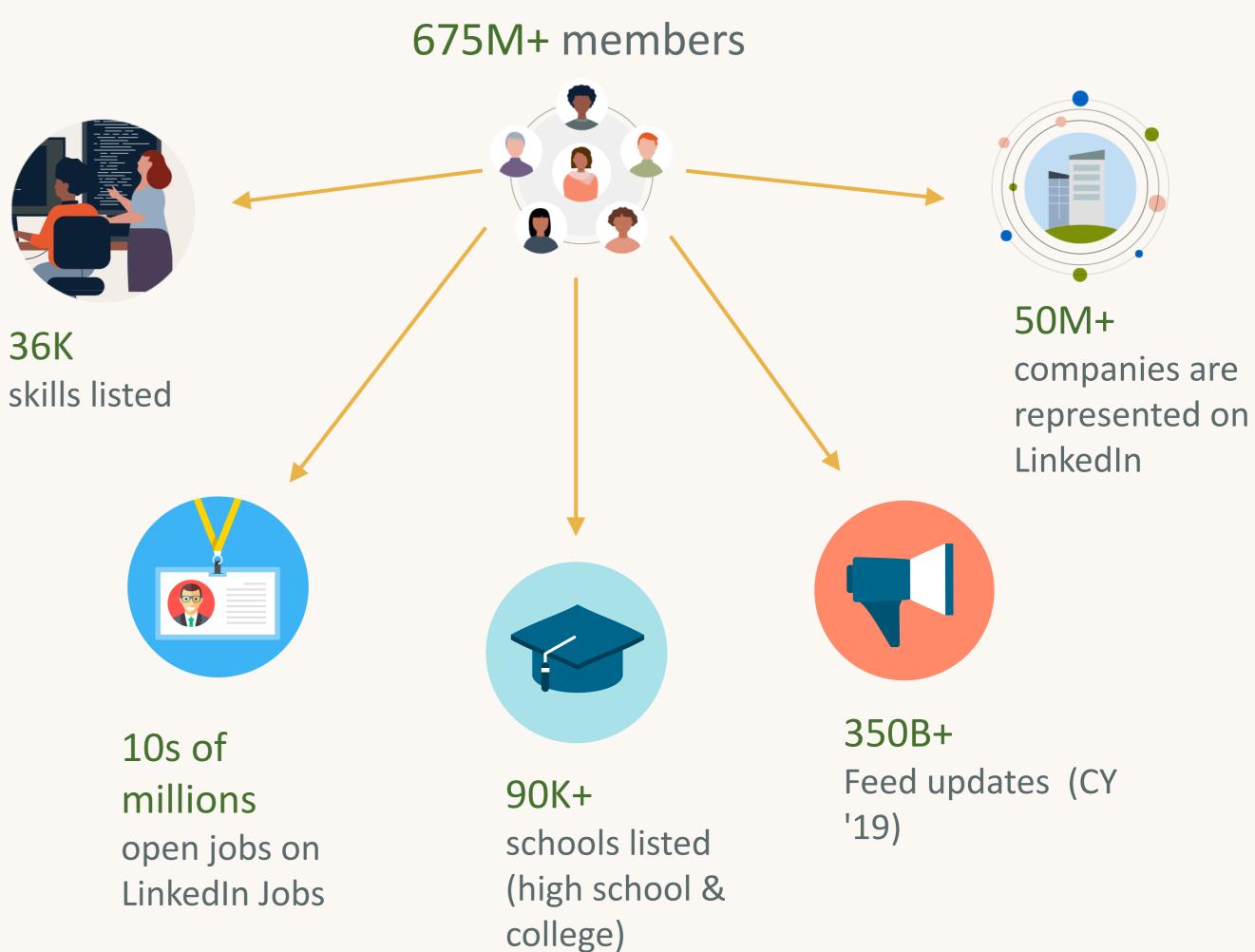


## LinkedIn operates the largest professional network on the Internet

#### Tell your story-



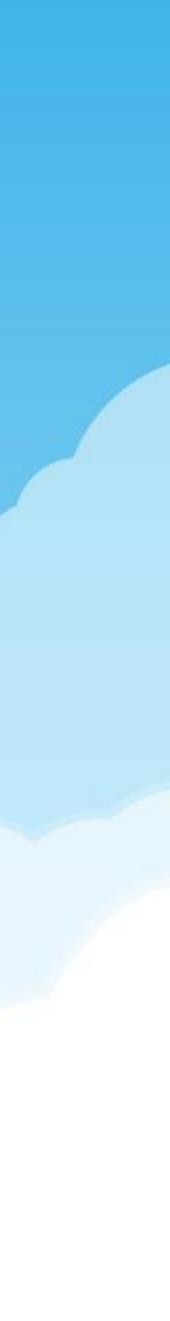






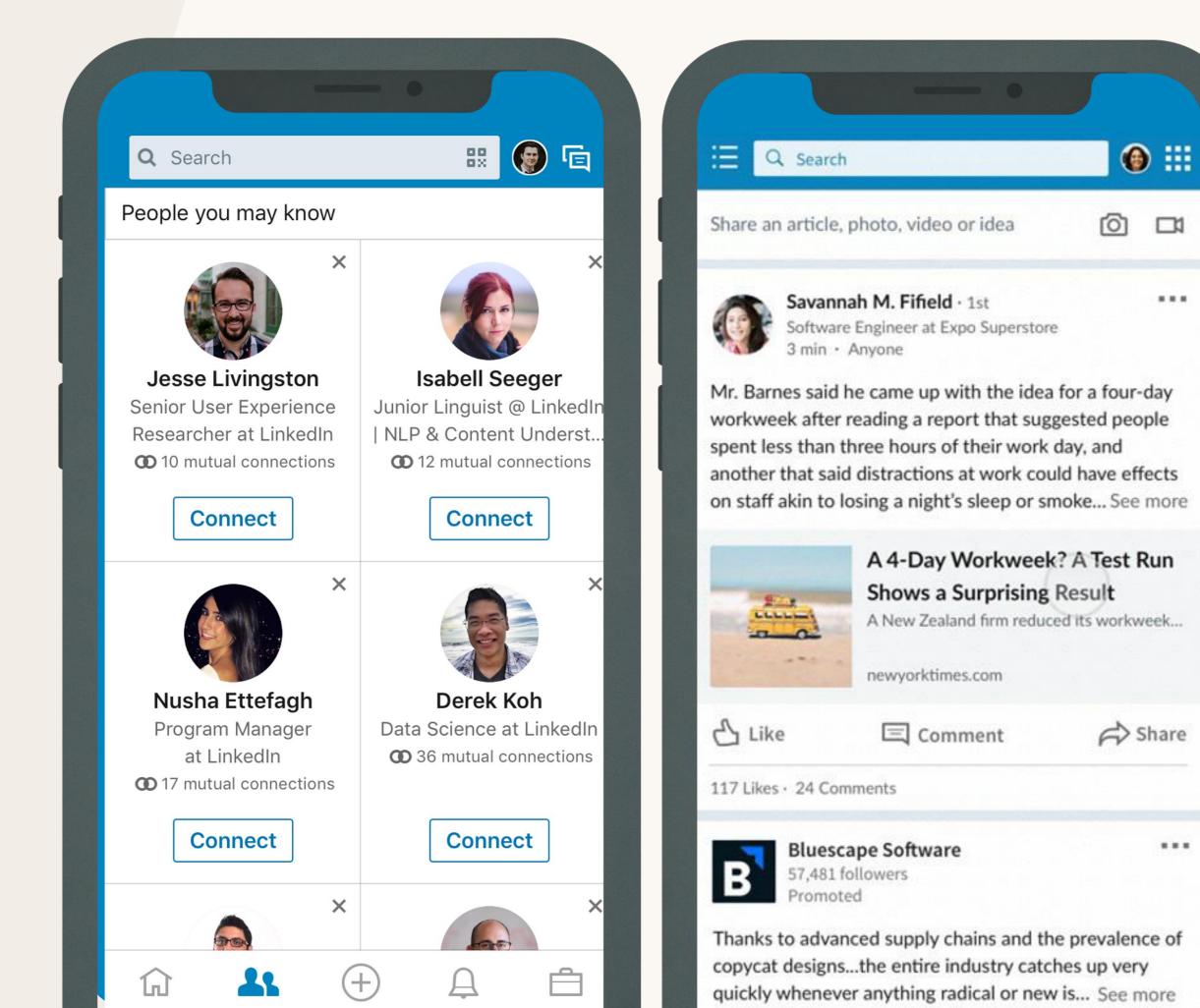


## Al is like Oxygen at LinkedIn



### My Network

### Feed



#### Jobs

#### Learning



Jobs you may be interested in Update career interests



#### Principal Software Engineering Manager Microsoft

Mountain View, CA, US



32 connections

1 month ago



#### **Director Of Engineering** Gliffy

San Francisco Bay Area

22 days ago



Senior Director of Engineering, Search Move, Inc Santa Clara, CA, US



2 connections

2 months ago

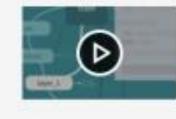
#### Courses related to Deepak's skills



Data Science Foundations: **Python Scientific Stack** Viewers: 6,033

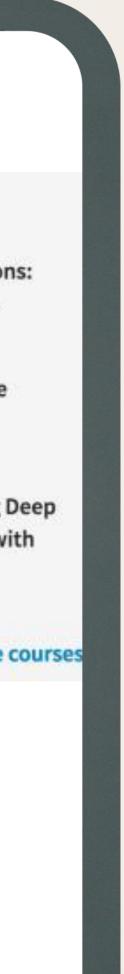


Pandas for Data Science Viewers: 10,197



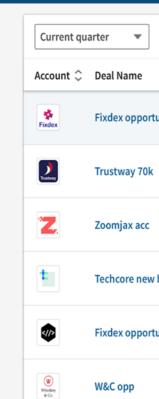
**Building and Deploying Deep** Learning Applications with TensorFlow Viewers: 2,636

See more courses

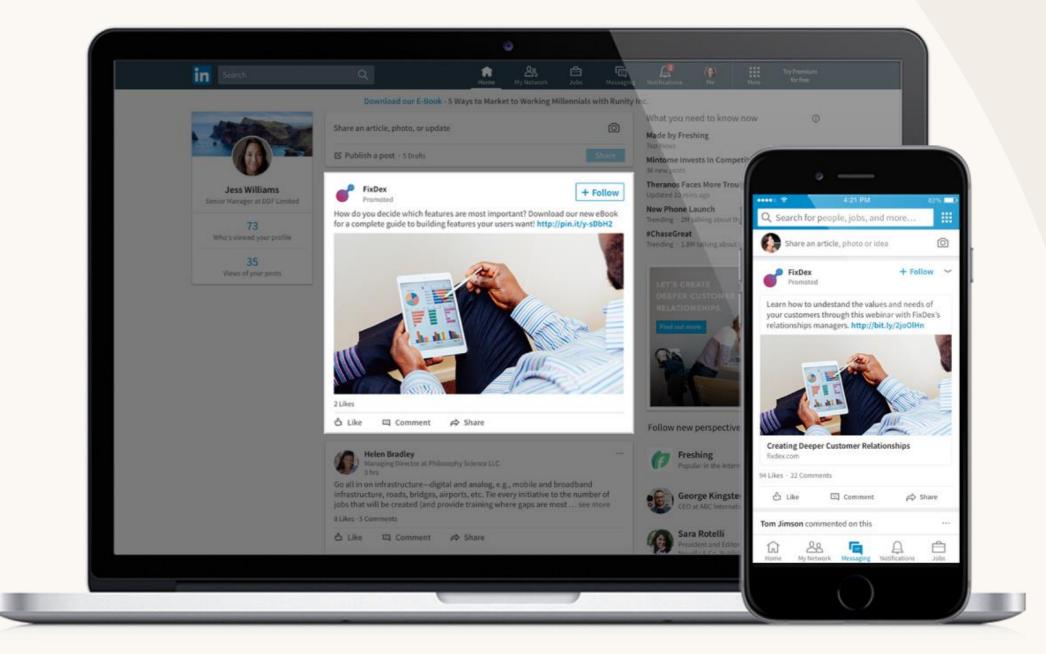


#### **Recruiter Search**

RECRUITER	PROJECTS CLIPBOARD JOBS REPORTS MORE				
Q Start a new se	earch				
Showing results for	21 13 3   total candidates are more likely to respond open to new opportunities				
Job titles Current or Past ~ Machine Learning Engineer +	21 candidates View search insights				
+ Software Engineer, + Data Scientist, Locations <u>Current</u> ~ San Jose, California + + Santa Clara, California (11),	Islam Beltagy : • 2nd     Machine Learning Engineer at Quora     San Francisco Bay Area • Computer Software     Current   Machine Learning Engineer at Quora • Sep 2016 - Present     Part   Descenth Assistant at The University of Tennent Auction 2016 - Present				
Skills Data Mining + + Machine Learning (19), + Python (19),	Past   Research Assistant at The University of Texas at Austin • 2013 - 2016     Research Intern at Microsoft Research • 2015 - 2015     See more (5)     Education     The University of Texas at Austin • 2011 - 2016     The University of Texas at Austin • 2011 - 2014     See more (2)				
Companies + Companies or boolean + Apple, + Google, + Microsoft, + Amazon,	4 Shared connections 🛞 Views 🕞 Notes 🕏 1 mer P Company follower 🖪 Being considered by 10 other				



### Sponsored Updates



#### Sales Navigator

) R		номе	LISTS DISCOVER	REPORTS		<mark>و</mark> 2	
Q	Search for leads or	accounts			Advanced	s	Saved Search <sup>6</sup>
8 deals • 9	\$950K   🥝 Last CF	RM save 1:45pm - 7/2	7/2017	C	Search table		0
	Buyer circle	Amount $\Diamond$	Close date $\bigcirc$	Stage	Probability	Next steps	
ortunity	CARCE	\$85,000 🖉	07-03-2017	4. Legal	♥ 90% ♥	Met with the lega finalize the paper	
)k		\$70,000	09-07-2017	3. Proposal	75%	Set up meeting v Craig and Jon t	
c		\$10,000	07-27-2017	3. Proposal	80%	The account was impressed with t	
ew bus		\$5,000	06-14-2017	1. Discovery	_	Jacob seems rea interested, looki	
ortunity		\$10,000	02-28-2017	2. Lead generation	50%	Finding solid lea update once I ma	
		\$50,000	12-04-2017	2. Lead generation	50%	Continuing the s call with Arnold	

## Al at LinkedIn

Scale

## 2 PB

Data processed offline

200

ML A/B experiments per week

## 2.15 PB

25 B

Data processed nearline per day Parameters in ML models

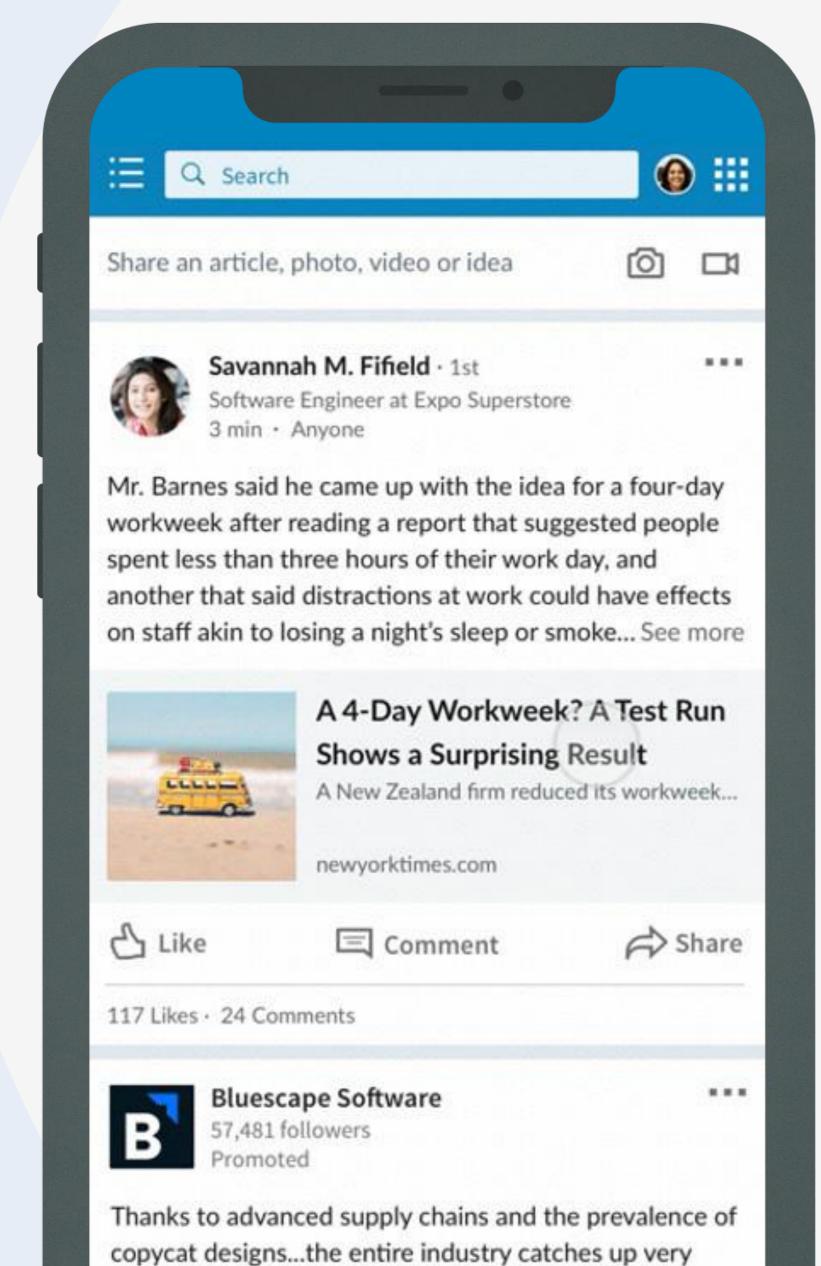
## 53 B

Graph edges with 1B nodes

## Intelligence Everywhere

**Communities & Conversations** 



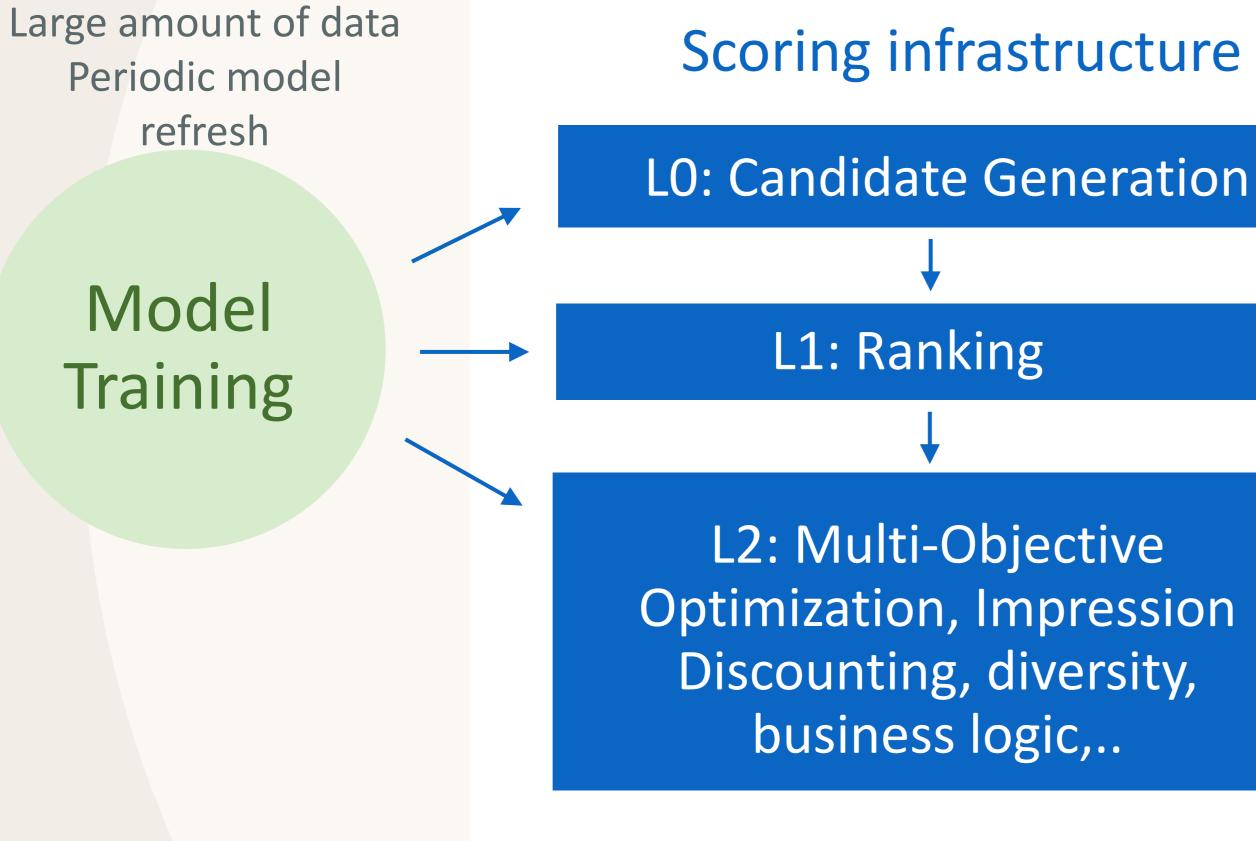


quickly whenever anything radical or new is... See more

- 2M+ posts a day generating tens of millions of responses (likes, reshares, comments)
- Tens of thousands of comments every hour
- 60% Y/Y growth in feed updates viewed
- Members who engage with content heavily are **5x** more likely to return daily

## ML Workflow

High QPS Low latency



### Features

Online services and stores

A/B Testing

**Tracking Events** & kafka



## Product strategy of long-term engagement

Build an ecosystem where members regularly talk to people they know, about things they care about with active interactions, not just passive consumption

#### Active contributors



Like



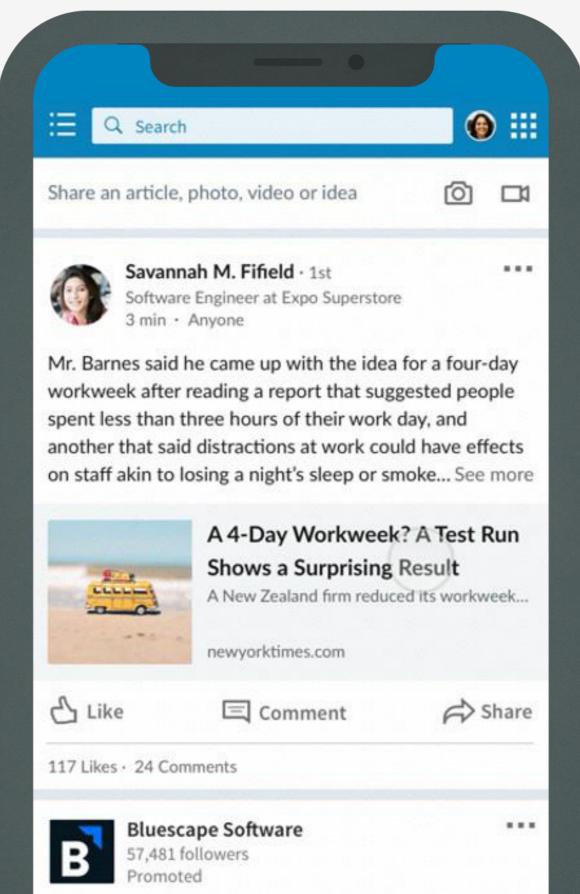
Comment

Share

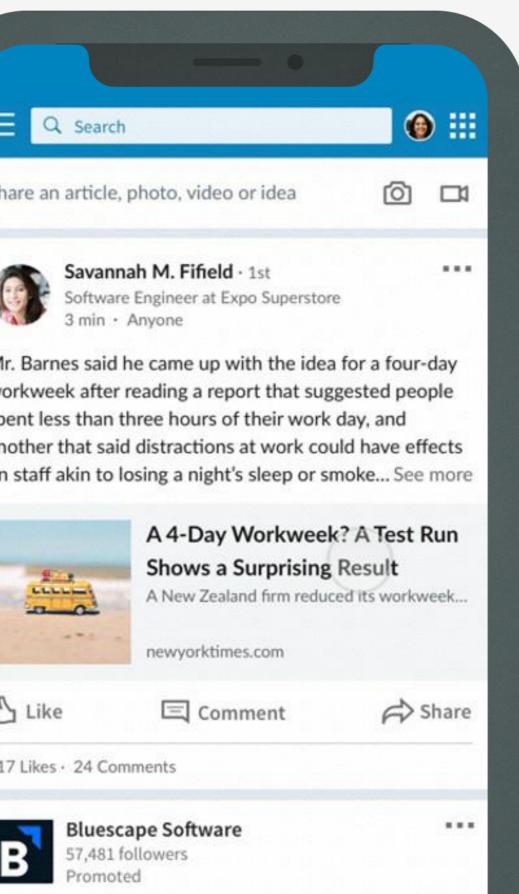
**Content creation** Content consumption Conversations

Daily active users User sessions Healthy ecosystem

## How to define the objective?







Thanks to advanced supply chains and the prevalence of copycat designs...the entire industry catches up very quickly whenever anything radical or new is... See more

#### Feed

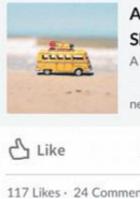


Share an article, pho



Software Eng 3 min · Any Mr. Barnes said he o

workweek after read spent less than three another that said dis on staff akin to losin





. . .

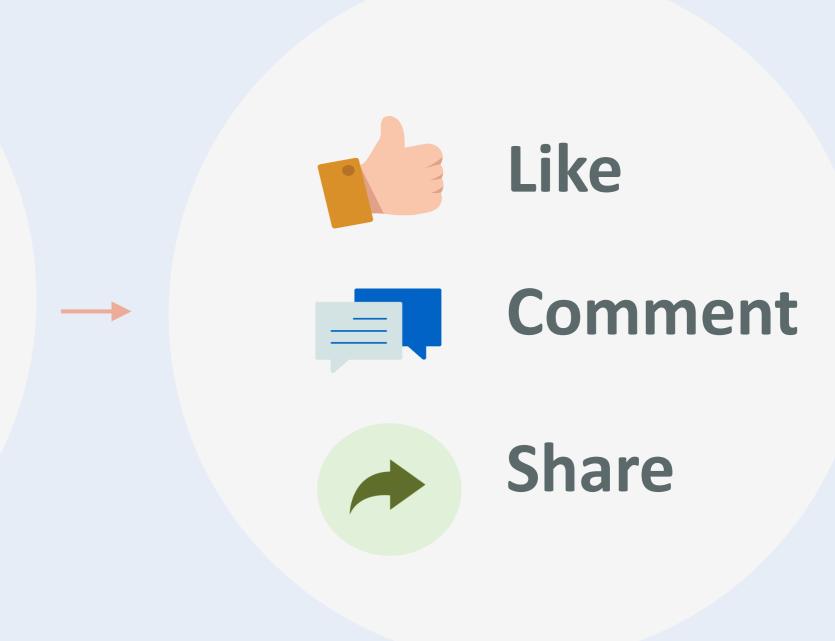
Thanks to advanced copycat designs...th quickly whenever an





#### Viewer

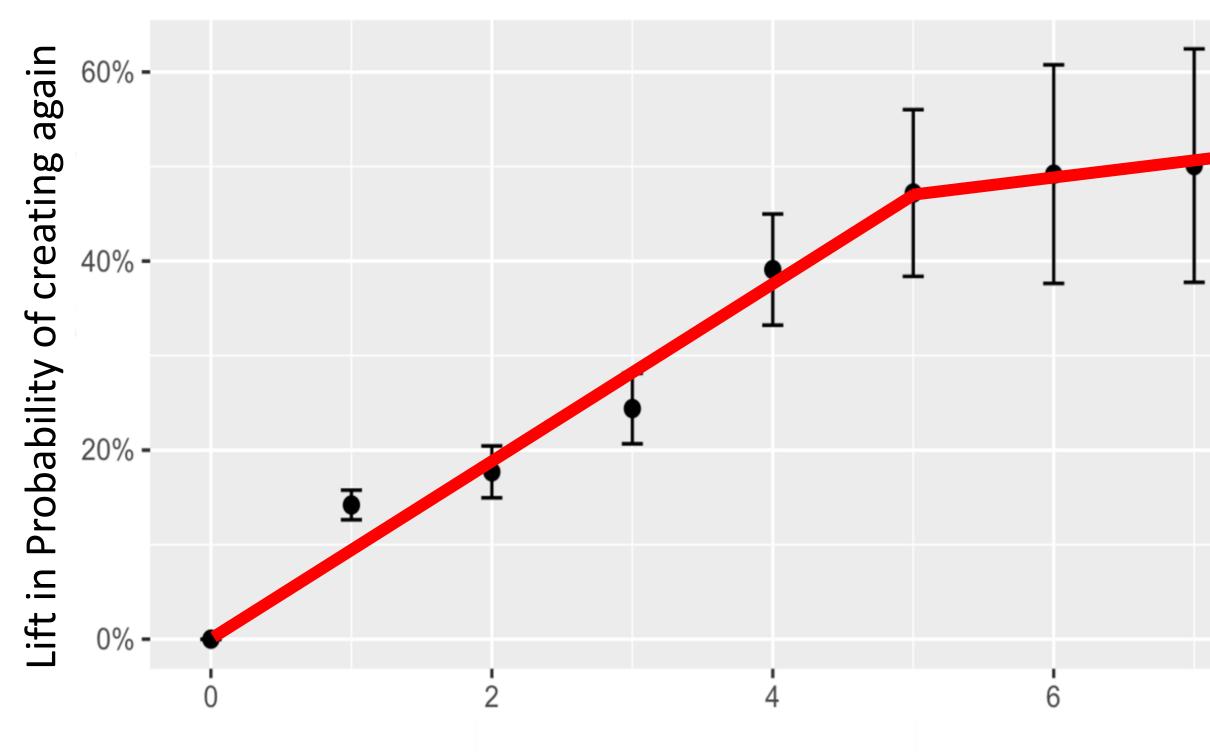
	•	
to, video or idea	Ø	
<b>1. Fifield</b> · 1st ineer at Expo Superstore one		
ling a report that sugge hours of their work da tractions at work could g a night's sleep or smo <b>4-Day Workweek</b> ?	ay, and I have eff oke See	fects more
nows a Surprising R New Zealand firm reduced	esult	
wyorktimes.com		
🗐 Comment	¢,	Share
ts		
Software ers		
	prevalen	



#### **Objective:** Maximize Contributions



### Social feedback drives content creation



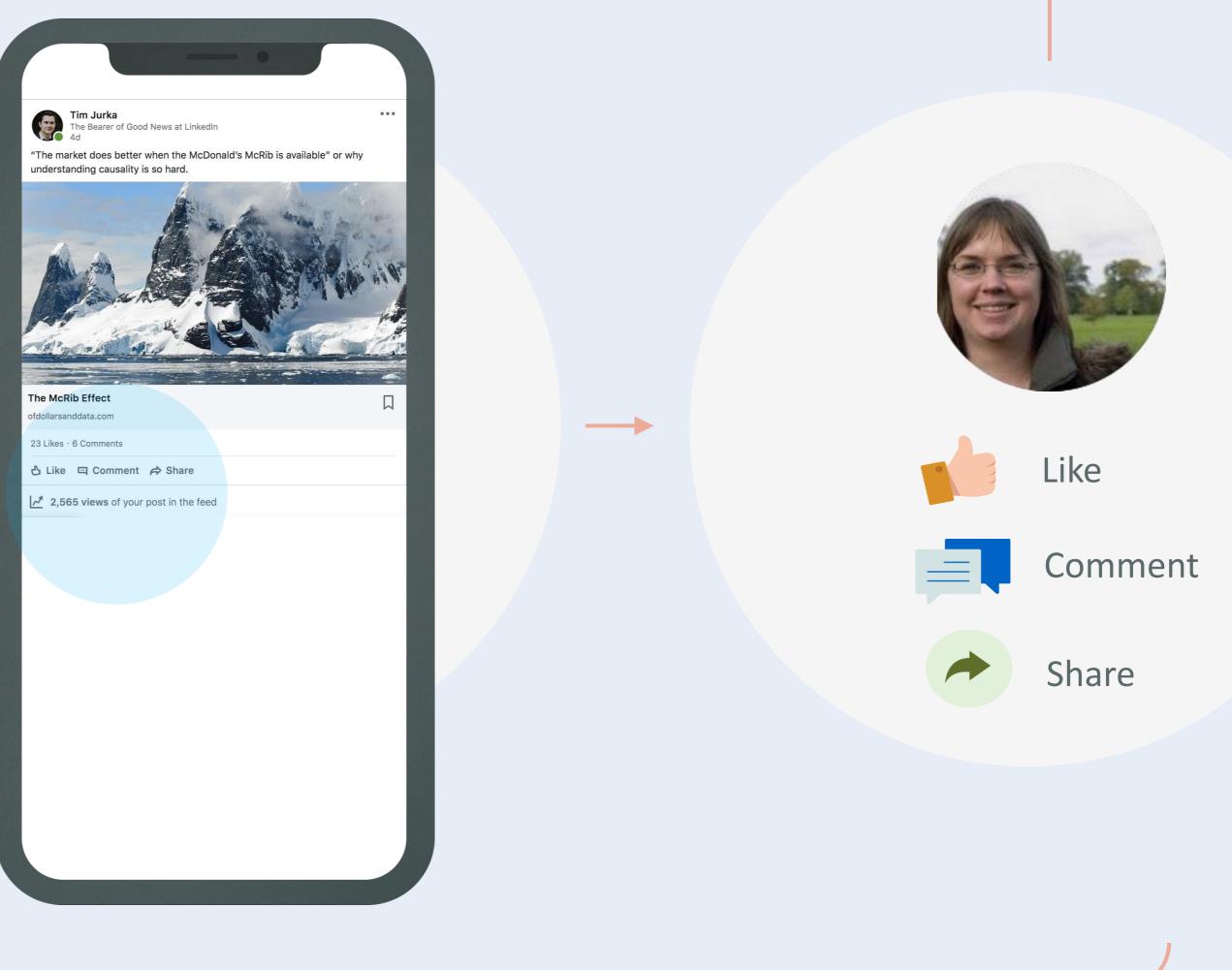
Number of social feedback that a content creator receives

#### More social feedback a content creator receives $\Rightarrow$ More content creation

WSDM'17; Chen, Chen and Agarwal



#### Creator



#### **Objective: Maximize content creation**

. . .

#### Social feedback



## Product strategy of long-term engagement

Build an ecosystem where members regularly talk to people they know, about things they care about with active interactions, not just passive consumption

#### Active contributors



Like



Comment

Share

**Content creation** Content consumption Conversations

Daily active users User sessions Healthy ecosystem

WHO WE ARE WHERE WE WORK OUR EXPERTISE TRAINING NEWS & VIEWS JOBS COM

#### PROJECTS



#### Complementary Basic Education for Ghana

Governance and Public Administration / Institutional Efficiency / Programme Design, Delivery and Evaluation

O Ghana

#### PROJECTS →

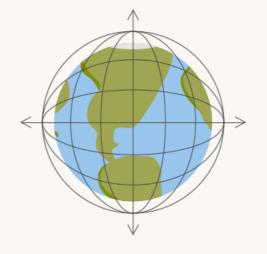
## It Takes a Village



## Core Al Team

#### SF - San Francisco

SNV - Sunnyvale



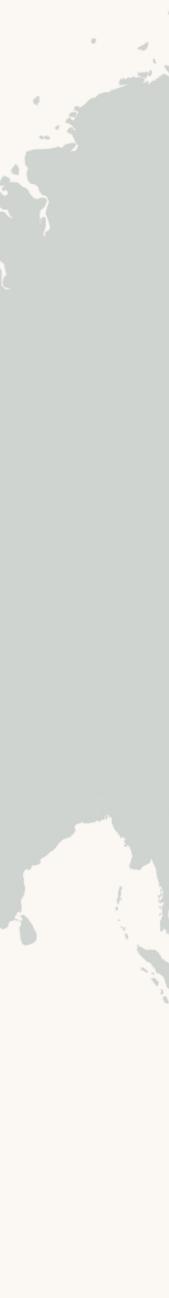
500+ Engineers

#### DUB – Dublin

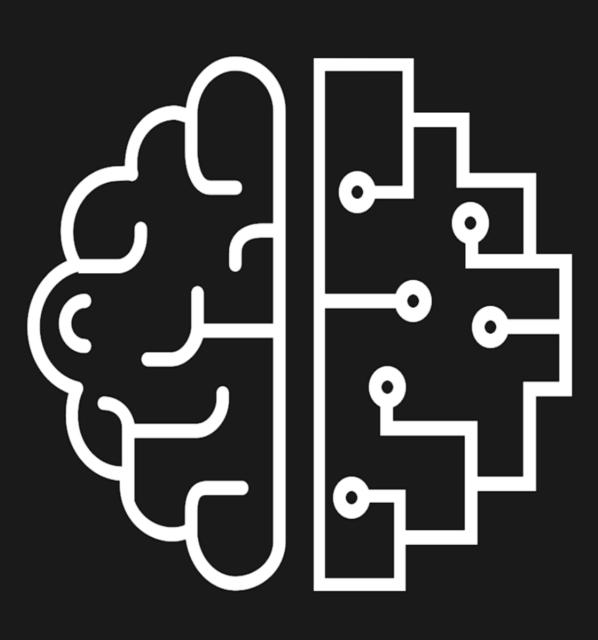
Aun

#### NYC – New York City

#### BLR - Bangalore



### in ALACADEMY



# in Al is like Oxygen

# Thank you

