Building an AI Startup

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About me

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Why this topic?

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Recently offered to join an AI startup as a leading role

-> I questioned myself

- How is an AI startup built?
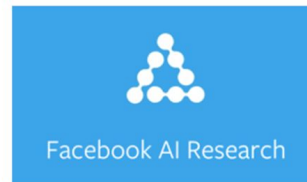- What can I do in an AI startup?

Building An AI Startup

Realities & Tactics

Matt Turck, FirstMark Capital
Peter Brodsky, HyperScience

Sept 27, 2016

Market Positioning

Big Tech Companies on the AI

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Big Tech Companies on the AI

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Just too much advantages

Big Tech Companies on the AI

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Just too much advantages

- They have been working on AI for a long time
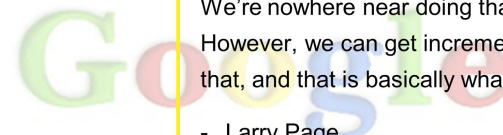
They've Been Thinking About AI For A Long Time

"Artificial intelligence would be the ultimate version of Google.

We're nowhere near doing that now. However, we can get incrementally closer to that, and that is basically what we work on."
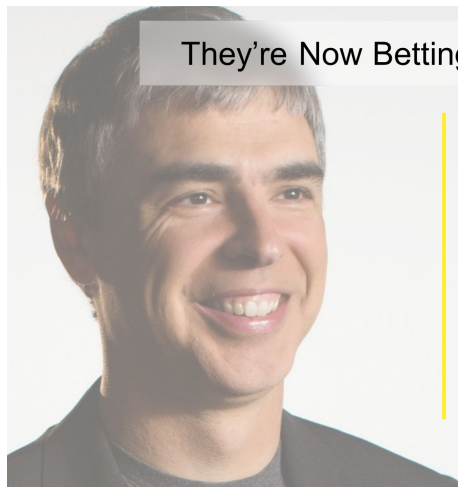
- Larry Page
  CEO, Google, October 2000

They're Now Betting the Farm On It

"We've been building the best AI team and tools for years, and recent breakthroughs will allow us to do even more.

We will move from mobile first to an AI first world."

- Larry Page
  CEO, Alphabet, April 28, 2016

Big Tech Companies on the AI
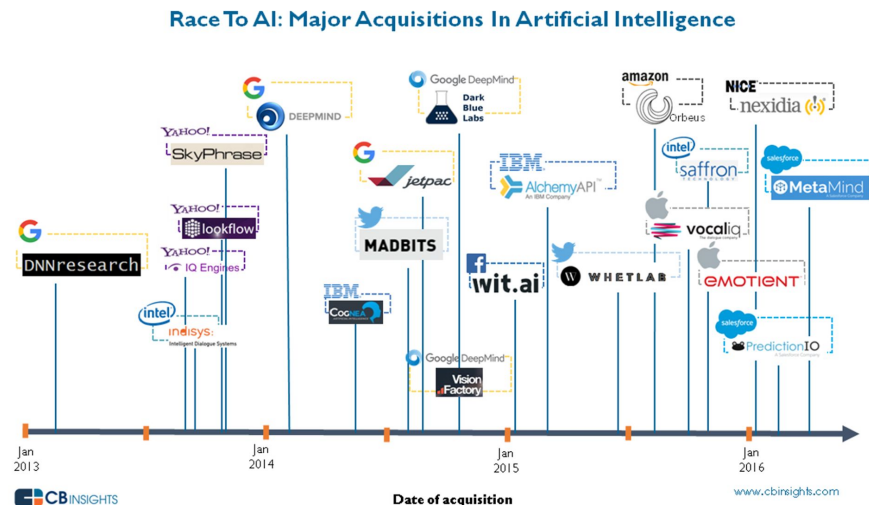
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Just too much advantages

- They have been working on AI for a long time
- They can hire all the rockstars

Big Tech Companies on the AI
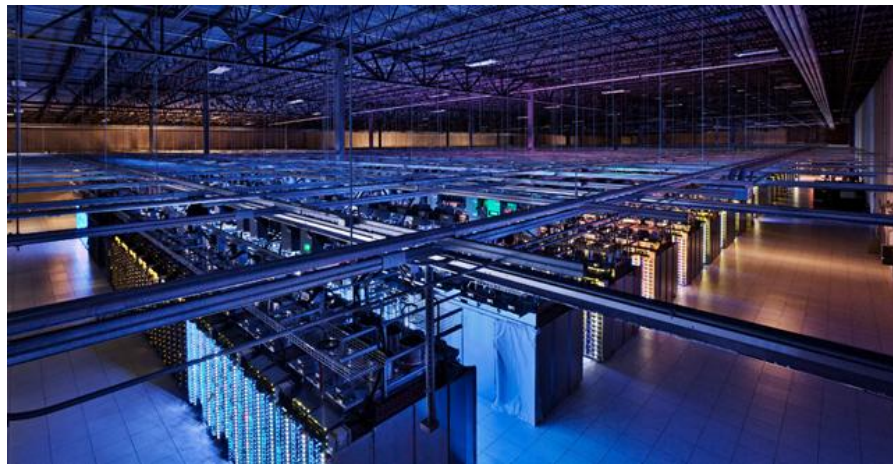
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Just too much advantages

- They have been working on AI for a long time
- They can hire all the rockstars
- They can acquire the best teams

Race To AI: Major Acquisitions In Artificial Intelligence

Big Tech Companies on the AI

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Just too much advantages

- They have been working on AI for a long time
- They can hire all the rockstars
- They can acquire the best teams
- They have all the DATA in the world

HORIZONTAL ᵛˢ VERTICAL

Tech giants have a formidable advantage when it comes to building broad horizontal products (image/video/voice recognition, language translation) & infrastructure (AI cloud)
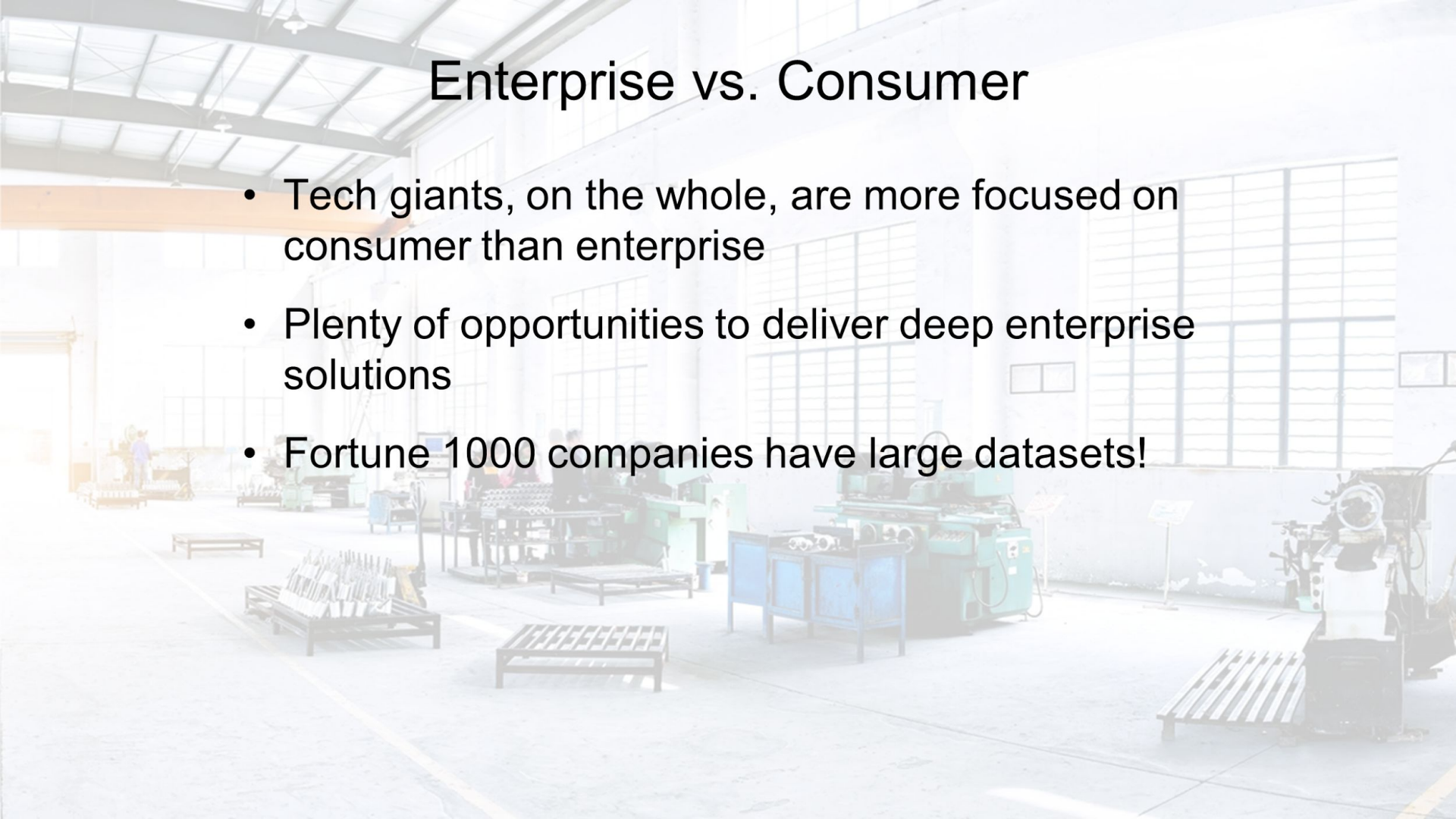
However they're not going to tackle every single vertical problem

Enterprise vs. Consumer

- Tech giants, on the whole, are more focused on consumer than enterprise

- Plenty of opportunities to deliver deep enterprise solutions

- Fortune 1000 companies have large datasets!

Product

AI is all about automation

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"If a typical person can do a mental task with less than one second of thought, we can probably automate it using AI either now or in the near future." - Andrew Ng

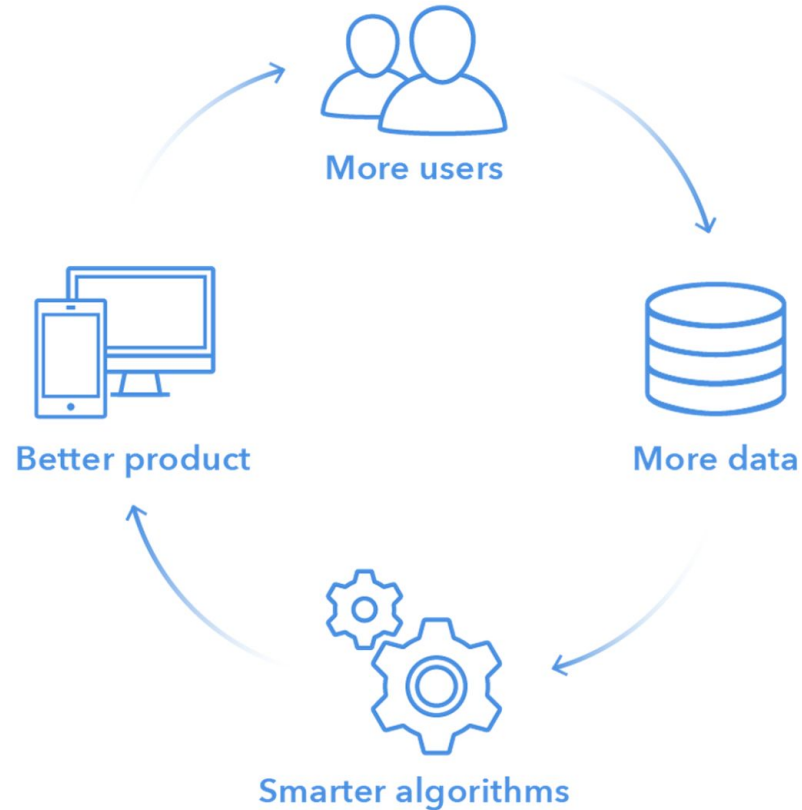AI can do even better than human

E.g. AlphaGo

Ideas for product

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A startup product should always provide value

An AI startup product provides value by doing things cheaper, faster, or better

Data Network Effects

Best scenario: having a lot of users on a non-AI product

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Normally by forming cooperation with a non-tech business (shops, blogs, forums…)

-> Start collecting data

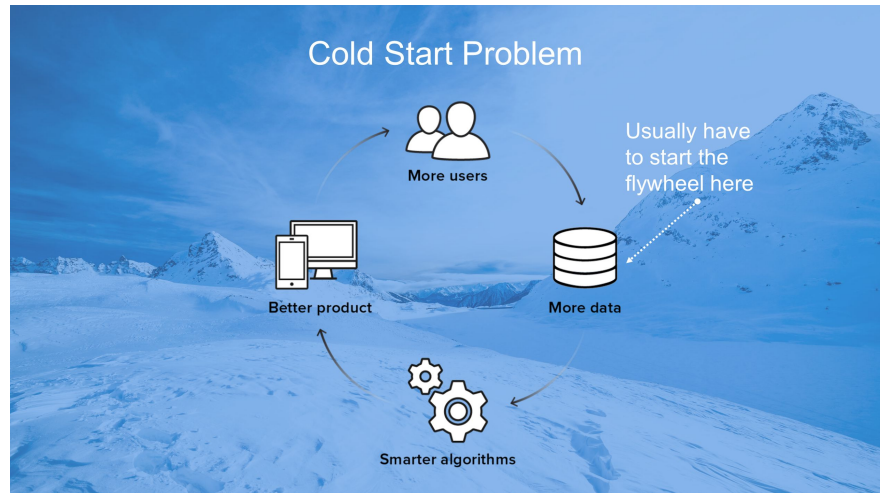-> Roll out AI-based claimed feature/product

Data Network Effects

Typical scenario: Cold Start Problem

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Typical startup way: build an MVP
(Minimum Viable Product)

How to get initial data?

- Use public dataset
- Crawl from web or real world
- Create manually with humans

People

AI is really hard!

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"Simply downloading and 'applying' open-source software to your data won't work. AI needs to be customized to your business context and data. This is why there is currently a war for the scarce AI talent that can do this work." - Andrew Ng

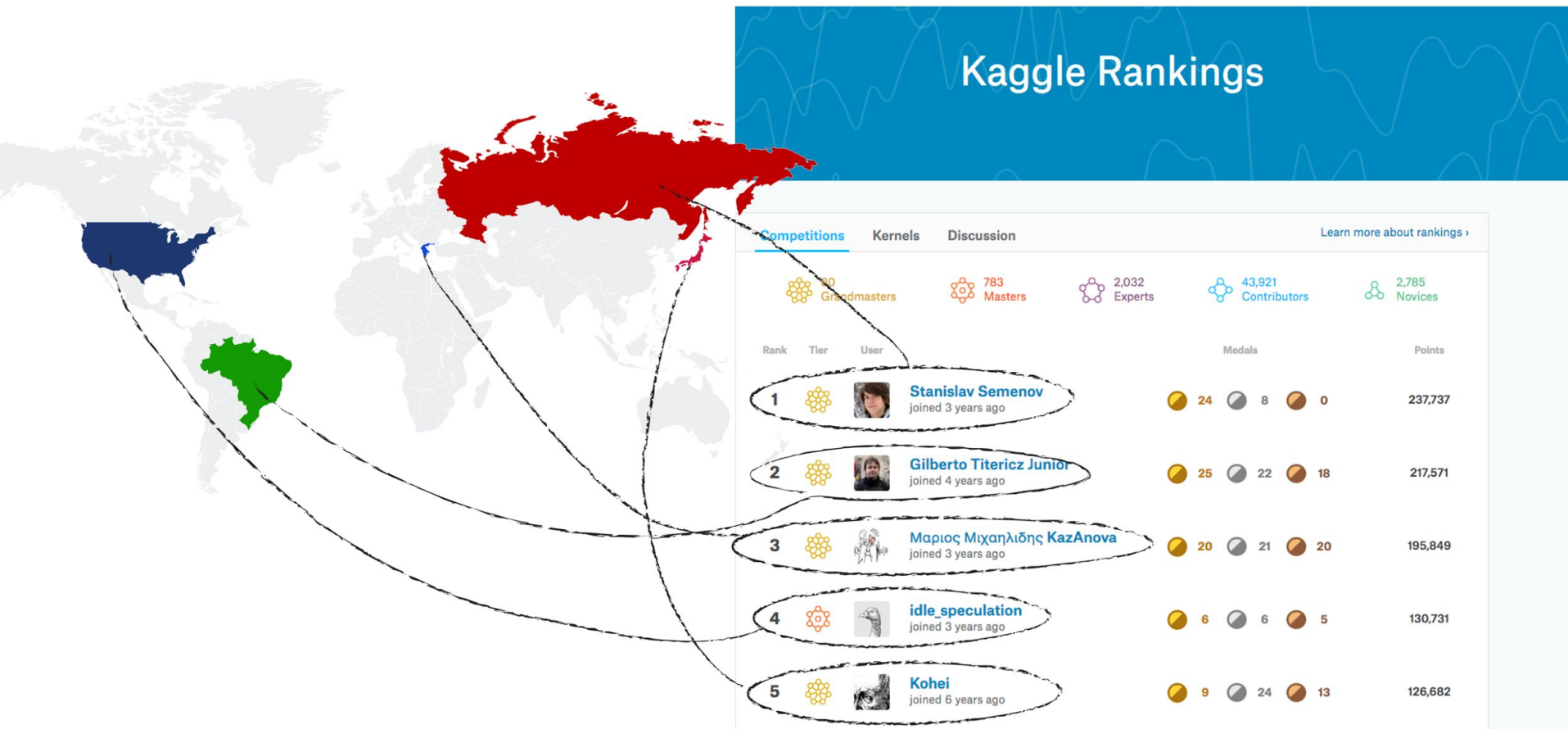TensorFlow doesn't (yet) mean AI is now easy to use!

People problem

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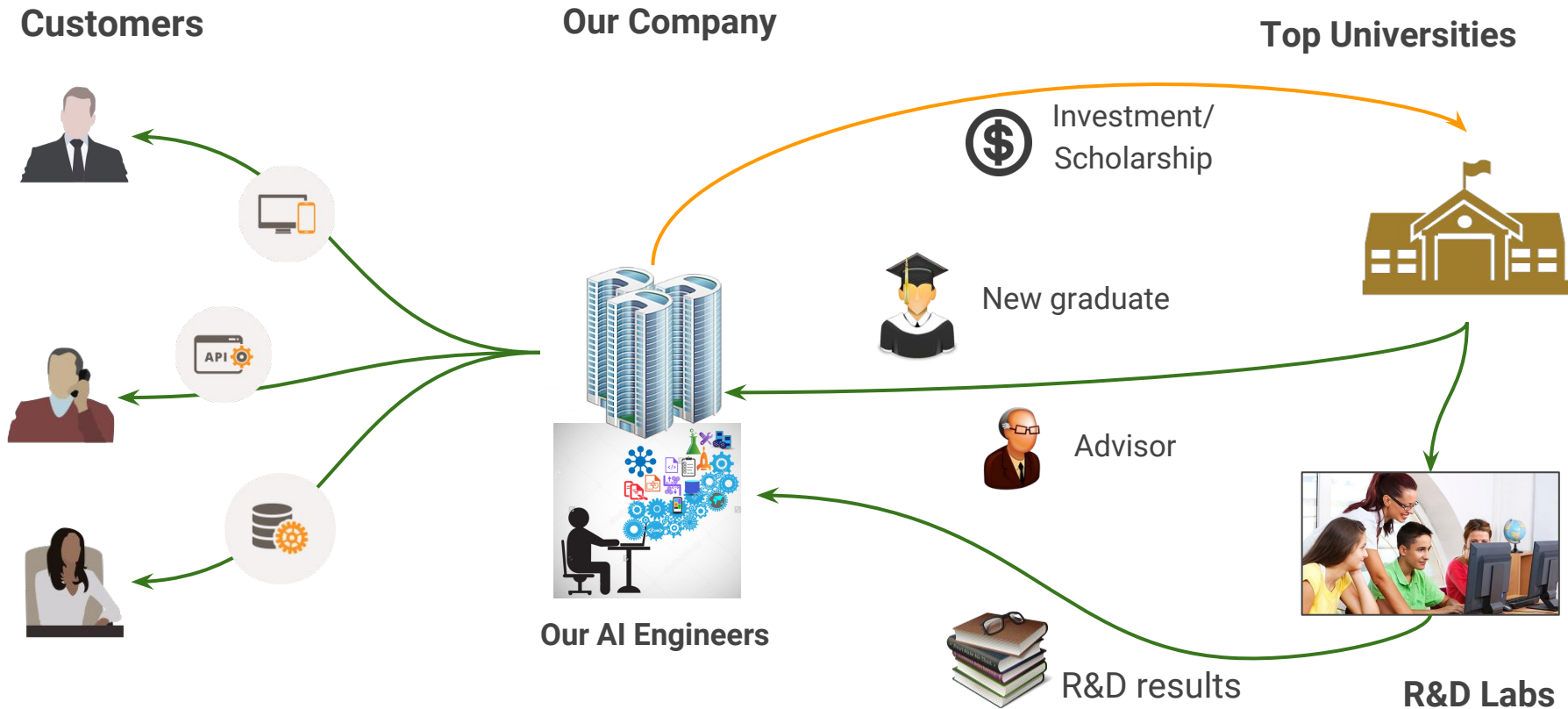
AI Startups need deeply technical teams

- Need core machine learning talent – often PhD level
- Also top engineers who can productize and deploy AI
- Ideally, people who can do both!
- In most cases, CEO needs to be deeply technical too

But there is a very limited supply of such talent

But Talent is Globally Distributed!

Example: Talent Acquisition Strategy

Customers

Our Company

Top Universities

Investment/
Scholarship

New graduate

Advisor

Our AI Engineers

R&D results

R&D Labs

Conclusion

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Target vertical problems

- Avoid competing with tech giants
- Try to create solutions for non-tech enterprises

Complete yourself

- PhD researchers: get some experience with building industrial products (easier)
- Software engineers: learn AI, build and deploy example AI systems (harder)

Contact

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