

Class 1: The Challenge of the Future

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Logistics

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WB3AJ3

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Course textbooks

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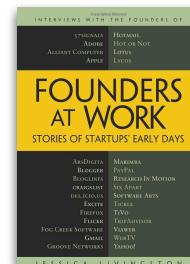
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Grading

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Course textbooks

Grading

Assignments - 30%

Pitch project - 35%

Final exam - 35%

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Logistics contacts

Logistics contacts

Last name

A-Chang

Chen-E

F-I

J-Lee

Lei-Ng

Ni-Sc

Se-Th

Ti-Z

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Logistics contacts

Last name	Contact
A-Chang	Rick Barber
Chen-E	Juan Batiz-Benet
F-I	Sebastian Gill
J-Lee	Sean Kandel
Lei-Ng	Joseph Lau
Ni-Sc	Steven Na
Se-Th	Rob Ryan
Ti-Z	Leslie Wu

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J-Lee	Sean Kandel	skandel@cs.stanford.edu
Lei-Ng	Joseph Lau	jhlau@stanford.edu
Ni-Sc	Steven Na	nayinan@stanford.edu
Se-Th	Rob Ryan	robryan@stanford.edu
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Lei-Ng	Joseph Lau	jhlau@stanford.edu
Ni-Sc	Steven Na	nayinan@stanford.edu
Se-Th	Rob Ryan	robryan@stanford.edu
Ti-Z	Leslie Wu	lwu2@stanford.edu

TA office hours begin next week

See CourseKit for time slots

Pick the session that works best

outline

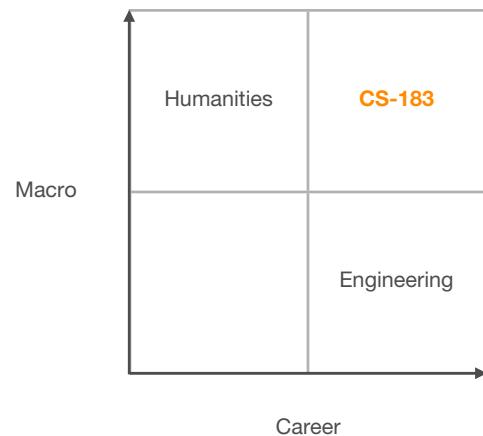
1. purpose
2. brief history of progress
3. the case for CS
4. future of progress
5. why companies?
6. why startups?
7. where to start?

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Why we're here



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outline

1. purpose
2. **brief history of progress**
3. the case for CS
4. future of progress
5. why companies?
6. why startups?
7. where to start?

A brief history of progress

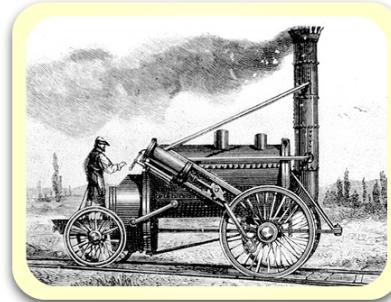


Courtesy: Gibney

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A brief history of progress



Courtesy: Gibney

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A brief history of progress



Courtesy: Gibney

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A brief history of progress

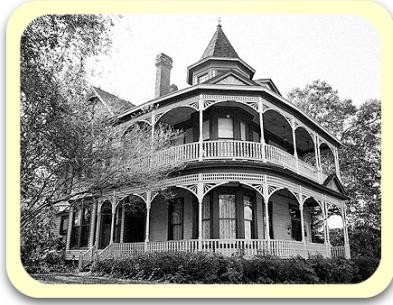


Courtesy: Gibney

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A brief history of progress



Courtesy: Gibney

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A brief history of progress



Courtesy: Gibney

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A brief history of progress

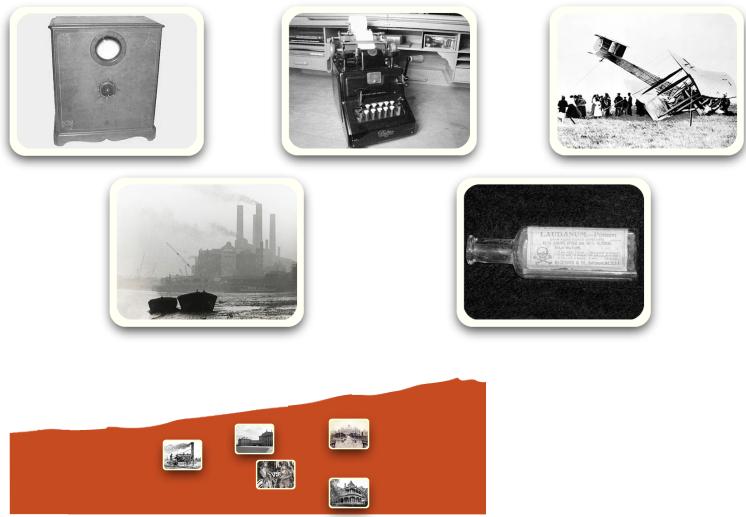


Courtesy: Gibney

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A brief history of progress



Courtesy: Gibney

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A brief history of progress



Courtesy: Gibney

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A brief history of progress



Courtesy: Gibney

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A brief history of progress

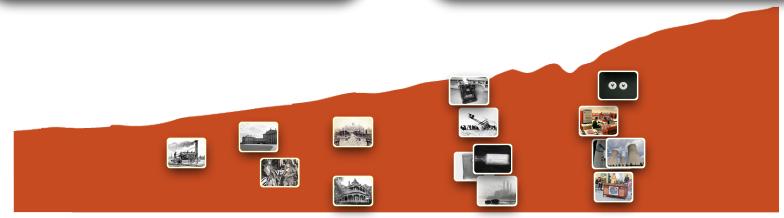


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A brief history of progress

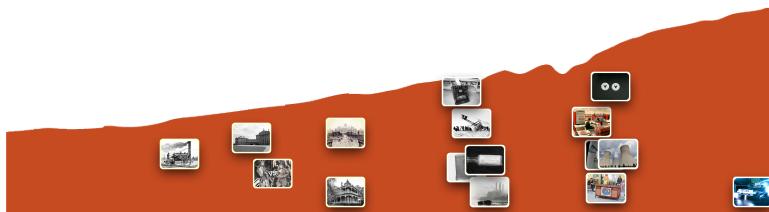


Courtesy: Gibney

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A brief history of progress



Courtesy: Gibney

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A brief history of progress

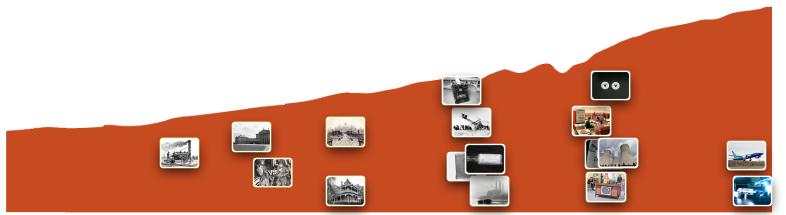


Courtesy: Gibney

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A brief history of progress



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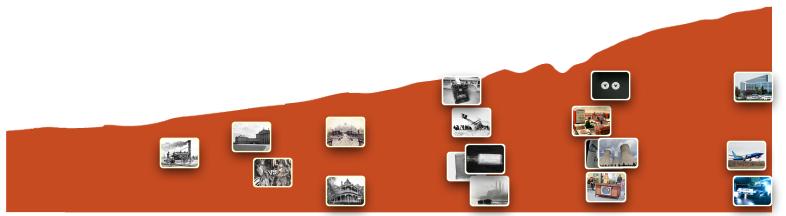
A brief history of progress



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A brief history of progress



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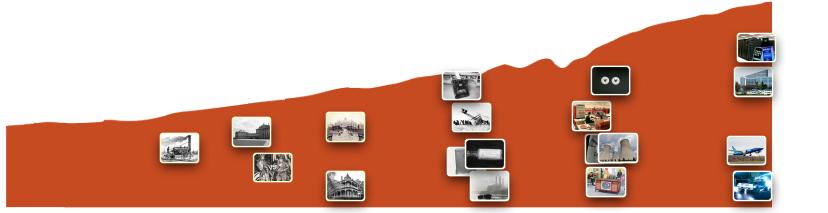
A brief history of progress



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A brief history of progress

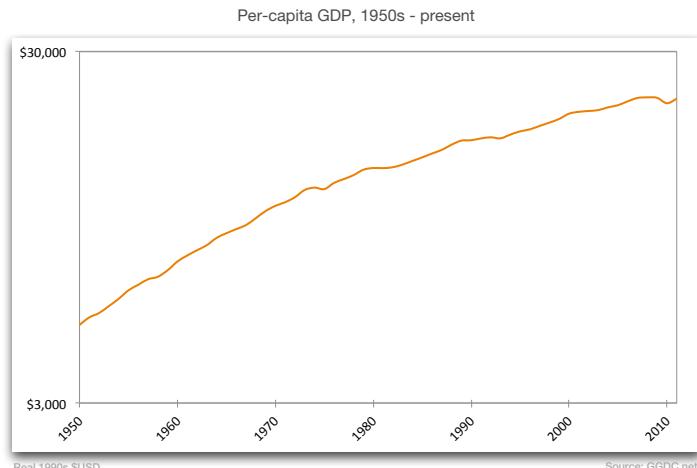


Courtesy: Gibney

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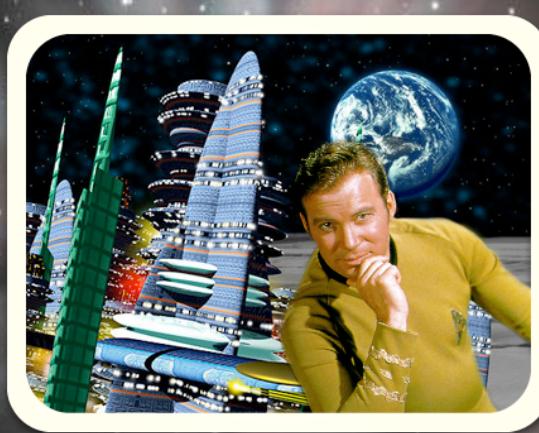
Something changed



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The future: then



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The future: now



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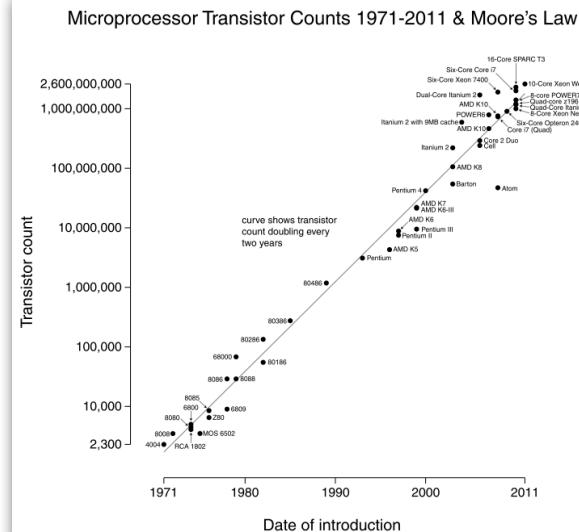
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Rapid progress - data



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Rapid progress - hardware



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Rapid progress - software

```
DIR [drive:\]path\[(filename) [/P] [/W] [/R[([l]attrib)] [/O[([s]ortord)]]  
[/{S} /{B} /{A} /{L} /{I} /{C}]]  
[drive:\]path\[(filename) Specifies drive, directory, and/or files to list.  
/P Displays information each time a file is listed.  
/R Displays files with specified attributes.  
/S Displays subdirectories & files ready to archive. H Hidden files  
/B Displays files & sub-directories first. N Prefix meaning "not"  
/O List by files in sorted order.  
sortord N By name (alphabetical) S By size (smallest first)  
E By extension (smallest first) G By reverse order  
D Group directories first L Prefix to reverse order  
/C Displays files in compressed format and all subdirectories.  
/B Uses bare format (no heading information or summary).  
/L Uses lowercase.  
/G/H Displays file compression ratio. /G uses host allocation unit size.  
Switches may be present in the DIRCMD environment variable. Override  
preset switches by prefixing any switch with = (hyphen)—for example, /-U.  
C:\>
```



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outline

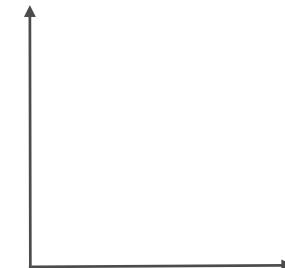
1. purpose
2. brief history of progress
3. the case for CS
- 4. future of progress**
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6. why startups?
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Progress in the 21st century

vertical or
intensive
progress

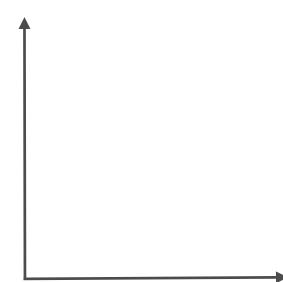


horizontal or
extensive progress

Progress in the 21st century

vertical or
intensive
progress

doing new things



horizontal or
extensive progress

copying things that work

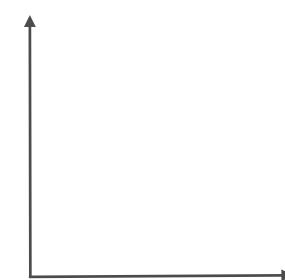
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Progress in the 21st century

vertical or
intensive
progress

doing new things
technology



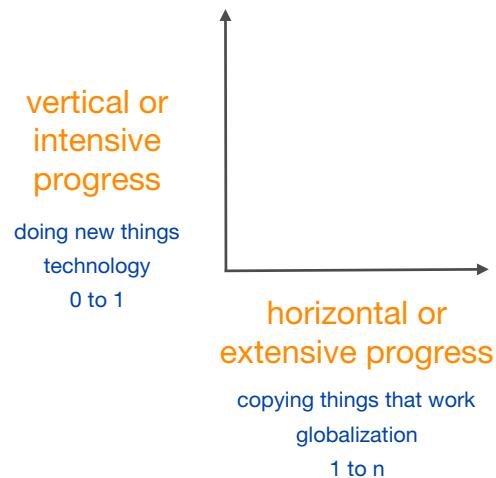
horizontal or
extensive progress

copying things that work
globalization

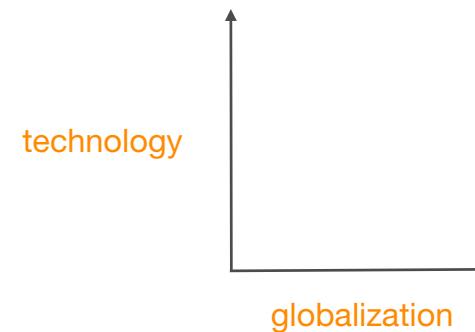
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Progress in the 21st century



The nature of progress

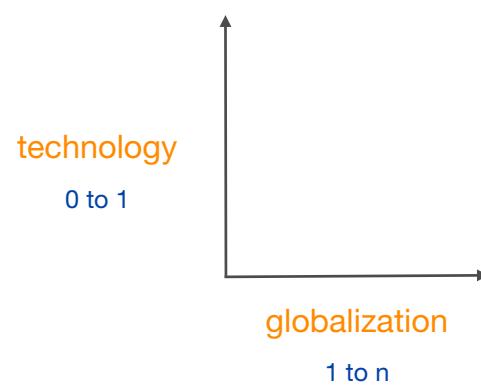


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The nature of progress



The challenge of 0 to 1



"An engineer is the closest thing to a magician that exists in the real world."

- Elon Musk

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The challenge of 0 to 1

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The challenge of 0 to 1

The challenge of exceptionalism

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The challenge of 0 to 1

The challenge of exceptionalism
The educational challenge

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The challenge of 0 to 1

The challenge of exceptionalism
The educational challenge
The narrative challenge

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The challenge of 0 to 1

The challenge of exceptionalism
The educational challenge
The narrative challenge
Indeterminism vs. determinism

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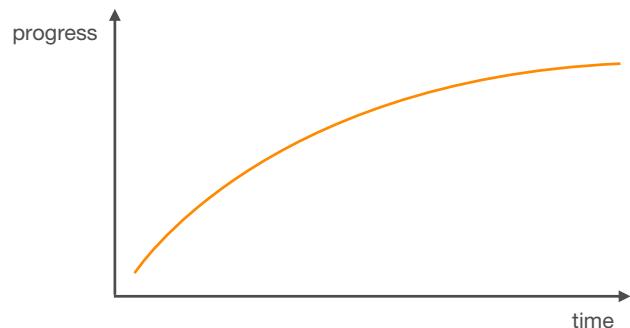
The challenge of 0 to 1

The challenge of exceptionalism
The educational challenge
The narrative challenge
Indeterminism vs. determinism
Luck vs. skill

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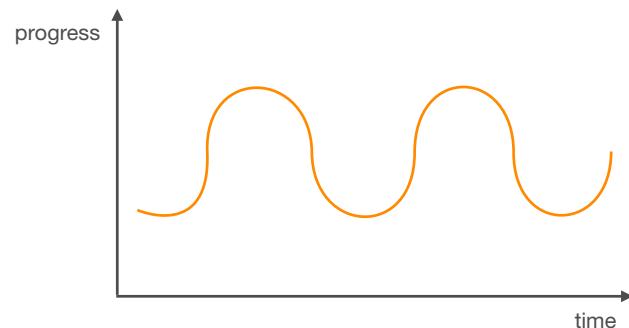
The future of intensive growth



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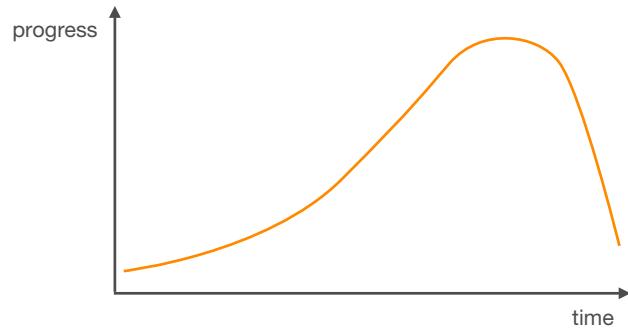
The future of intensive growth



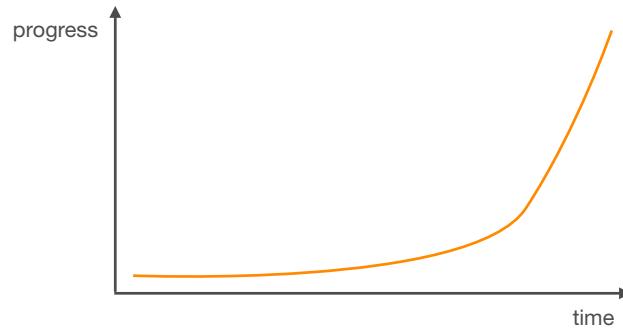
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The future of intensive growth



The future of intensive growth

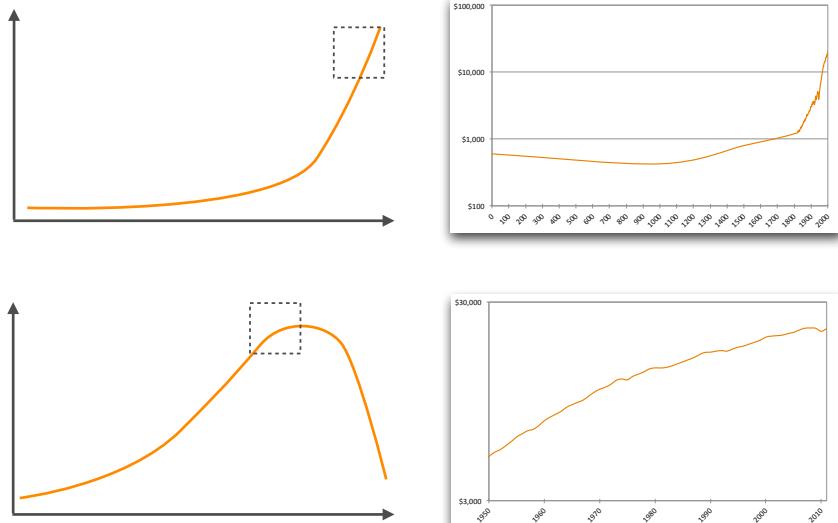


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The future of intensive growth



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The nature of progress

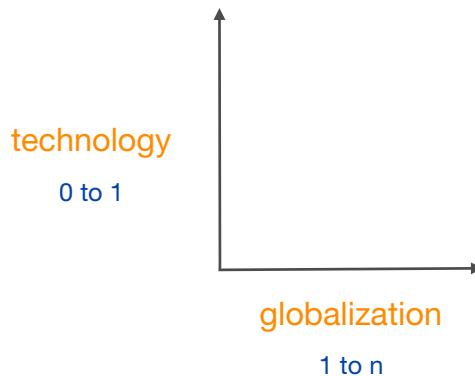
technology

globalization

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The nature of progress



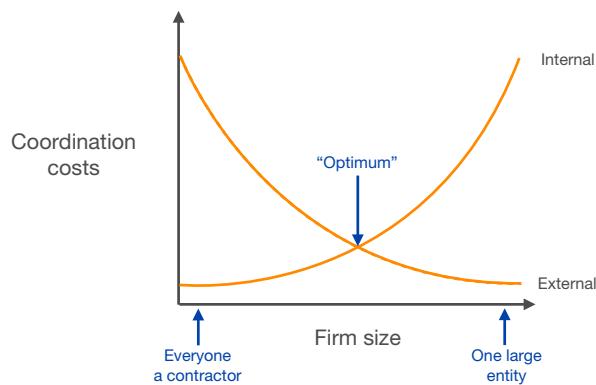
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outline

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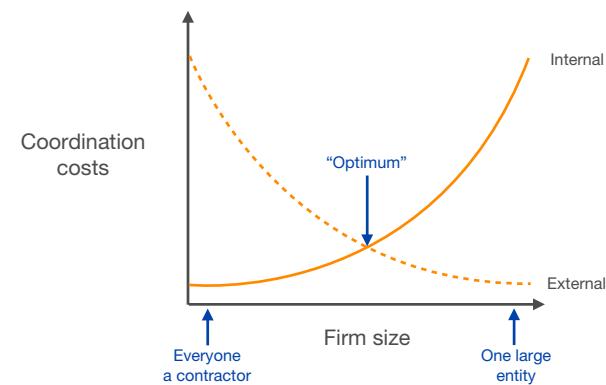
The economic case - narrow



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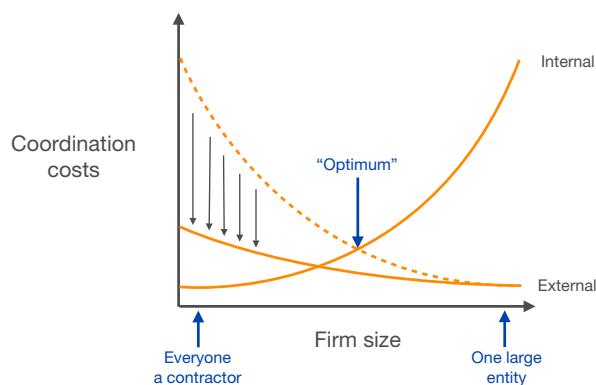
The economic case - narrow



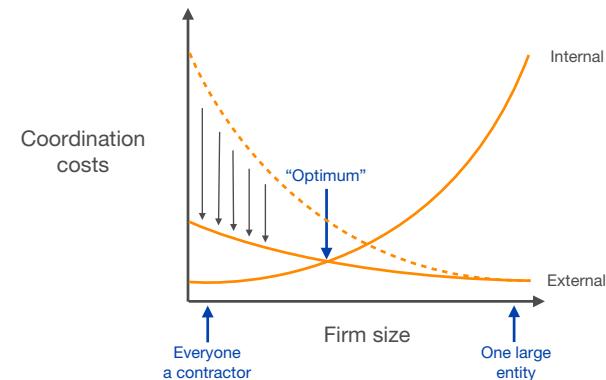
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The economic case - narrow



The economic case - narrow



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The economic case - broad

The economic case - broad

Metcalfe, tribes, yoga and Path

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The economic case - broad

Metcalfe, tribes, yoga and Path
The Austrian critique

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The economic case - broad

Metcalfe, tribes, yoga and Path
The Austrian critique
Emotional thinking

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The economic case - broad

Metcalfe, tribes, yoga and Path
The Austrian critique
Emotional thinking
The consultant problem(s)

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The economic case - broad

Metcalfe, tribes, yoga and Path
The Austrian critique
Emotional thinking
The consultant problem(s)
The information age

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The legal case

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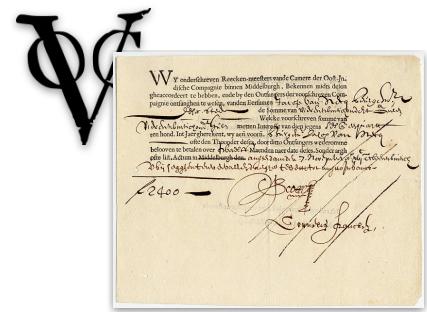
The legal case



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The legal case



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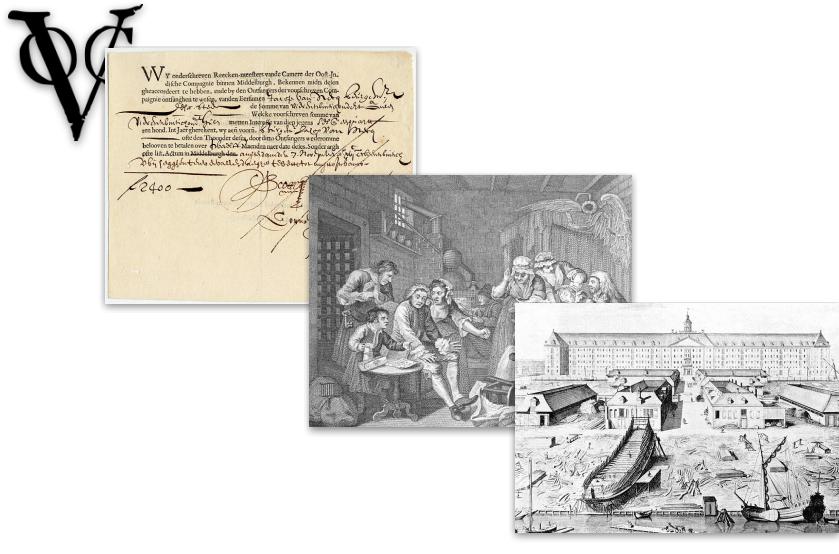
The legal case



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The legal case



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outline

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Big companies



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Big government



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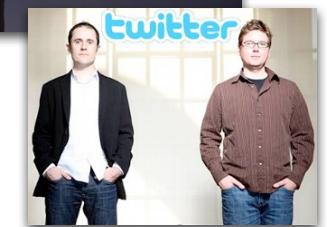
Big nonprofit



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Startups



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Why startup?

Financial

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Why startup?

Financial
Personal

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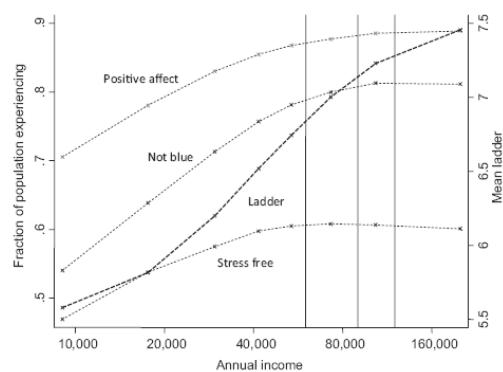
Why startup?

Financial
Personal
Mission

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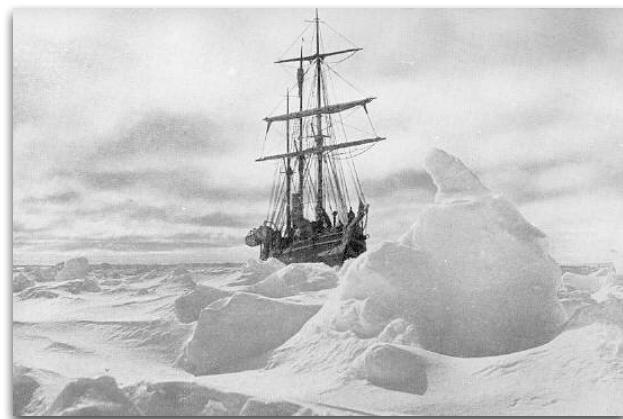
To make money



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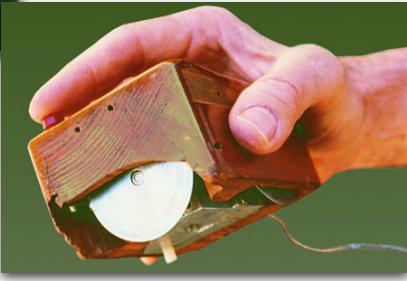
To be remembered



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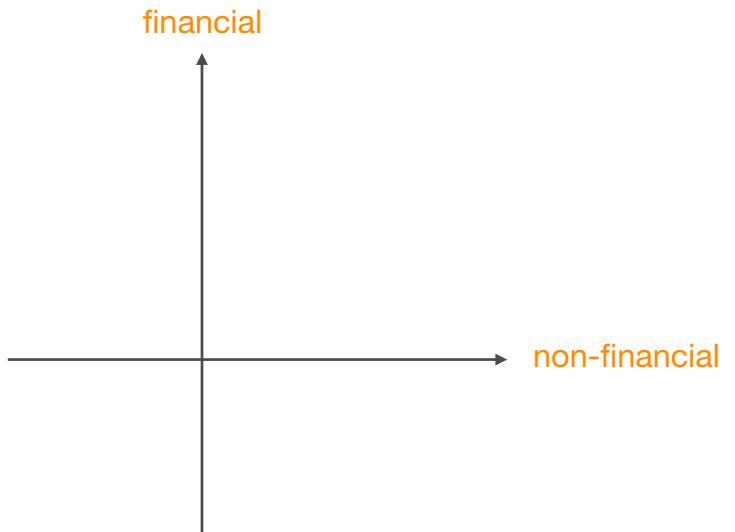
To change the world



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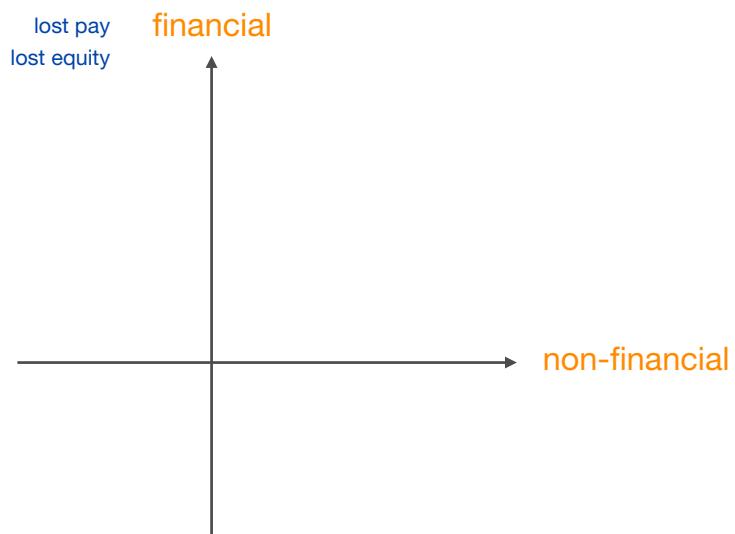
The cost of failure



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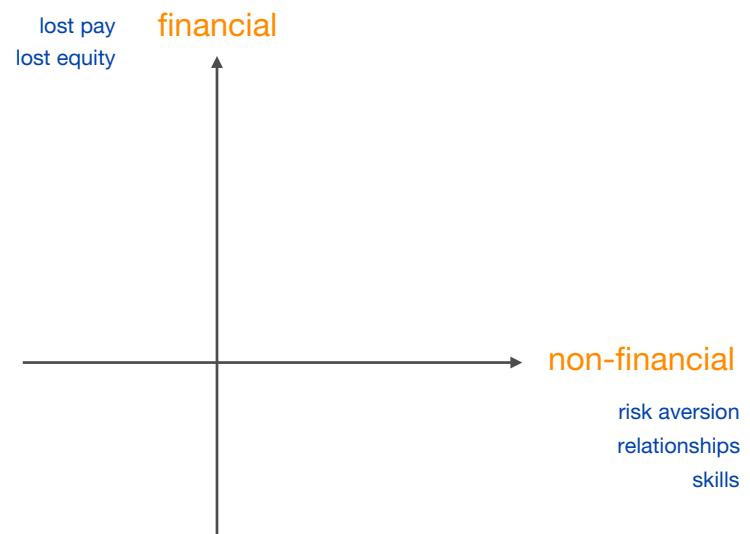
The cost of failure



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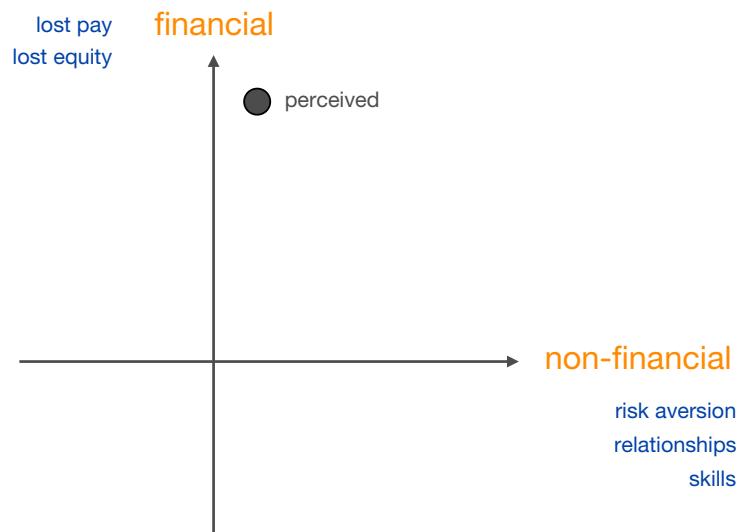
The cost of failure



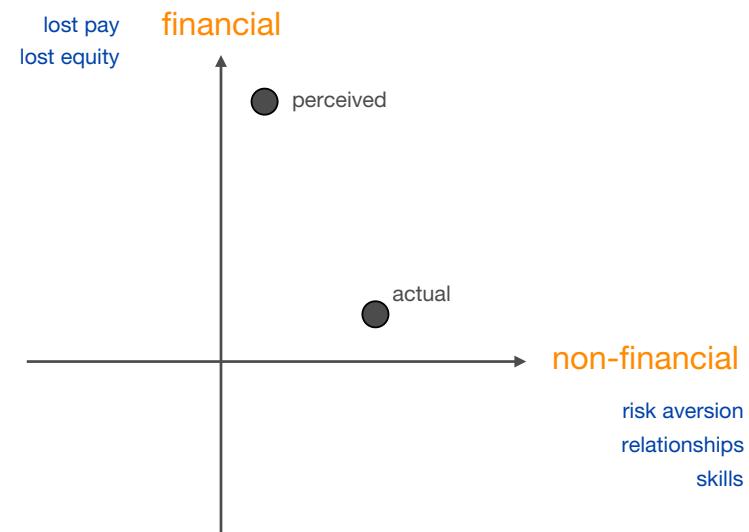
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The cost of failure



The cost of failure

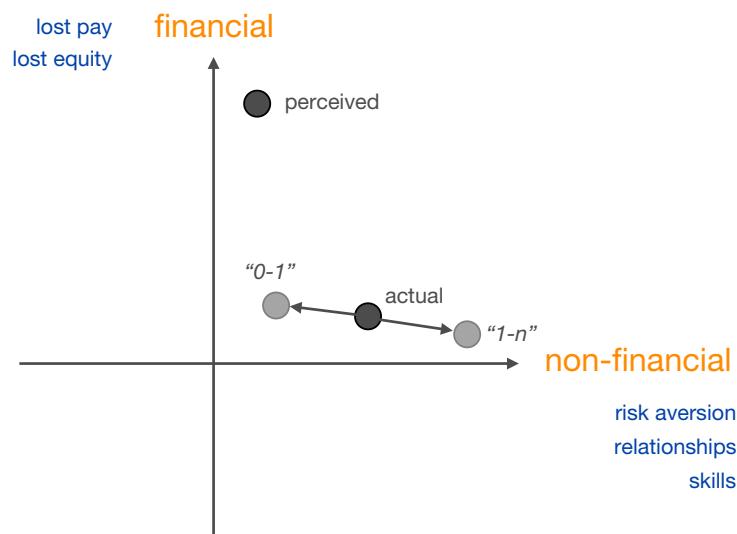


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The cost of failure



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Where to start

Where to start

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What is
valuable?

Where to start

Where to start

What can
I do?

What is
valuable?

What can
I do?

What is
valuable?

What are
others
not doing?

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The key question

The key question

intellectual version

What important truth do very few people agree with you on?

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The key question

intellectual version

What important truth do very few people agree with you on?

business version

What valuable company is nobody building?

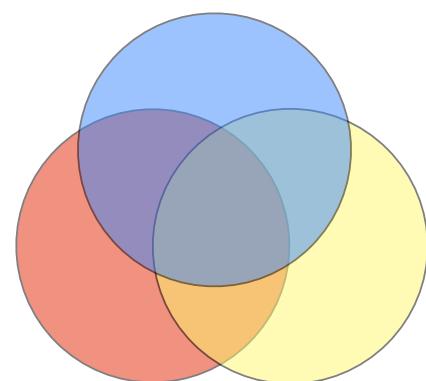
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What are others not doing?

What can I do?

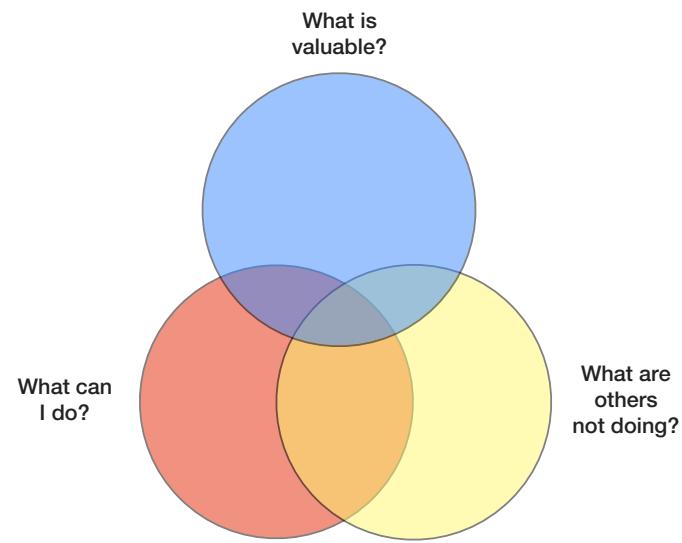
What is valuable?



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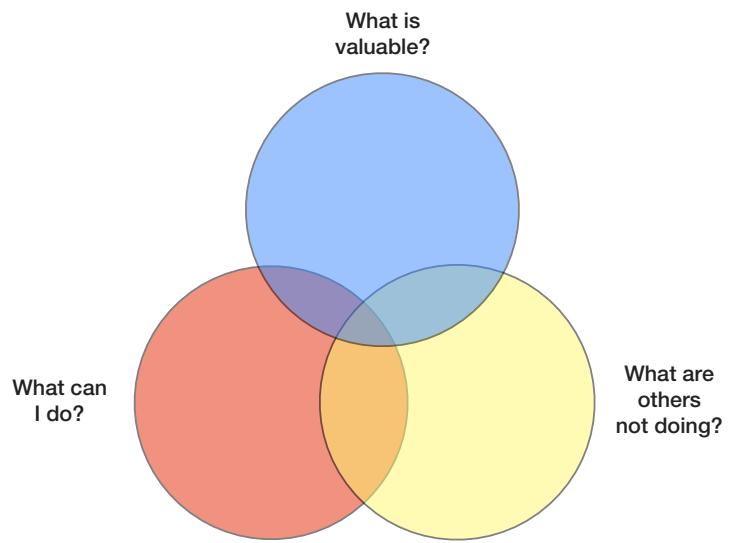
Where to start



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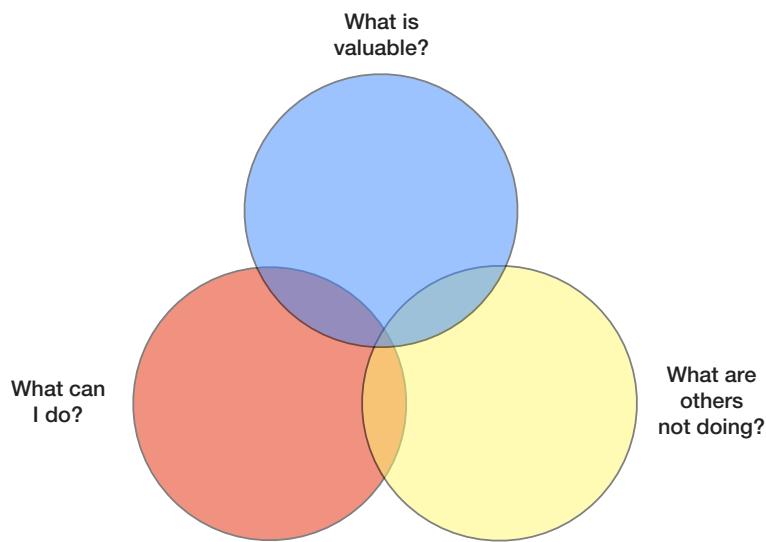
Where to start



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Where to start



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