L1C3 - Vision for Federated Learning

0.00		
0:00	hi my name is andrew welcome to this	こんにちは、私の名前はアンドリューです。ようこそ。
0:02	course and welcome to this first lesson	もちろん、最初のレッスンへようこそ
0:03	on remote data science um in this lesson	リモート データ サイエンス については、このレッスンで
0:06	we're going to walk through just the	だけを見ていきましょう
0:07	high level survey of the the core	コアのハイレベル調査
0:09	motivations the core components and the	動機 コアコンポーネントと
0:12	main opportunities for you to	あなたにとっての主な機会
0:14	participate in remote data science and	リモートデータサイエンスに参加し、
0:16	in this first concept we're just going	この最初のコンセプトでは、私たちはただ進んでいきます
0:17	to talk about the motivations so so sort	動機について話す
0:19	of why remote data science is going to	リモートデータサイエンスがなぜそうなるのか
0:21	exist and and why it's really going to	存在し、そしてなぜそれが実際に存在するのか
0:23	be the future of of data science and	データサイエンスの未来となり、
0:25	machine learning and statistics and this	機械学習と統計とこれ
0:27	core motivation is really just that it's	核となるモチベーションはまさにそれです
0:29	going to be a thousand times more data	データは1000倍になる
0:30	in every scientific field in industry	産業のあらゆる科学分野で
0:32	meaning as a result of a handful of new	少数の <mark>新しいものの結果として</mark> の意味
0:35	techniques there's going to be a	テクニックが登場するだろう
0:36	thousand times more data in in most	ほとんどの場合、数千倍のデータが入力されます
0:39	scientific fields in industry as a	産業における科学分野
0:41	result of you being able to study data	データを研究できるようになった結果
0:43	that's distributed across different	それはさまざまな場所に分散されています
0:44	organizations so so by analogy you know	ご存知のとおり、組織はまあまあです
0:46	in the same way that the gpus were to	GPU と同じように
0:48	compute privacy and technologies are to	コンピューティングのプライバシーとテクノロジは、
0:51	data right so gpus led to you know	データは正しいので、GPU でわかります
0:52	orders of magnitude increase in the	桁違いに増加する
0:54	amount of compute that was available	利用可能なコンピューティング量
0:56	and this led to you know big explosions	そしてこれが大きな爆発につながりました
0:57	in ai and innovation and then lots of	AIとイノベーション、そして多くの分野で
0:59	different sort of applied fields	さまざまな種類の応用分野
1:01	and we're going to see the same thing	そして 私たちは同じものを見ることになるでしょう
1:02	happen as a result of a similar many	同様のことが多数起こった結果として起こる
1:05	order of magnitude increase in the	桁違いの増加
1:06	amount of data that's that's available	利用可能なデータの量
1:09	and um the key premise that we have sort	そして、 重要な前提条件 を整理しました
1:11	of behind this big claim is that our	この大きな主張の背後にあるのは、 私たちの
1:13	ability to answer important questions is	重要な質問に答える能力は、
1:15	currently very limited because we can't	現在は非常に限られています。
1:17	access existing data meaning that you	既存のデータにアクセスするということは、
1:20	know distributed across organizations	組織全体に分散していることを知る
1:22	around the world are individual data	世界中の個人データ
1:23	silos that contained it that's valuable	貴重なものを保管していたサイロ
1:26		真里なもので休官していたり1日 そう、そして
	right and and	
1:28	you today if you want to to answer an	答えたいなら今日あなた
1:30	important question you know you say	重要な質問はあなたが言うことを知っています
1:31	you're a data scientist in a certain	あなたはある分野のデータサイエンティストです
1:33	country	国
1:34	inside of an organization inside of a	組織の内部 組織の内部
1:35	department of that organization you can	その組織の部門では、次のことができます
1:37	only answer questions and data you have	あなたが持っている質問とデータのみに答えてください
1:39	a copy of right and and sometimes you	権利のコピー、そして時にはあなたのもの
1:41	know that data might be really big so	データが非常に大きい可能性があることを知っているので、
1:43	it's a big web scrape of newswire from	それはからのニュースワイヤーの大きなウェブスクレイピングです
1:45	the internet but but for problems that	インターネットですが、問題がある場合は
1:48	are particularly important or problems	特に重要なことや問題があること
1:50	that are particularly valuable the	特に価値のあるものは、
1:52	people who who have access to that data	そのデータにアクセスできる人
1:54	are are less inclined to share	共有する傾向が低い
	"	

1:56	and then again this is for a wide	そしてまたこれは広い範囲のものです
1:57	variety of reasons like like i mentioned	先ほど述べたようなさまざまな理由
1:59	you know it could be it could be that	あなたはそれができるかもしれないことを知っています
2:01	it's too expensive right meaning that	それは高すぎる という意味です
2:03	the the act of doing some sort of a data	ある種のデータを処理する行為
2:05	partnership between you and some you	あなたと一部のあなたとの間のパートナーシップ
2:07	know	知る
2:08	hospital right they just wouldn't bother	病院ですよ、彼らは気にしないでしょう
2:10	with with with sort of working with you	あなたと一緒に仕事をするようなものと一緒に
2:13	to facilitate some sort of data sharing	ある種のデータ共有を促進するため
2:14	agreement maybe your institution is too	おそらくあなたの教育機関も同意するでしょう
2:16	small or you're an independent	小さいか独立しているか
2:18	researcher and so doing a data sharing	研究者などデータ共有を行っている
2:20	agreement with with you know a a bank or	あなたが知っている銀行との契約、または
2:23	a hospital or whatever it just it's just	病院でも何でも、ただそれだけです
2:24	it's just too much trouble for them to	彼らにとってそれは面倒すぎる
2:26	be able to work with it could be the if	それを使って作業できるのは、もしかしたらそうなるかもしれない
2:28 2:29	the data is too personal right it could	データが個人的なものすぎる可能性があります 彼らはあなたがそうするのを心配しているでしょう
2:29	be that they'd be worried that you would misuse that information right it could	なのはめなたがでするのを心管しているとしょう その情報を悪用する可能性がある
2:32	be legal reasons could be the data can't	法的な理由によりデータを保存できない可能性があります
2:34	you know can't go across a	越えられないのはわかってるだろう
2:37	national border or or can't leave a	国境を越えられなかったり、
2:40	particular particular organization you	特定の組織、あなたは
2:41	know there's a wide variety of or it	さまざまな種類があることを知っていますか
2:43	could be competitive reasons right so so	競争上の理由かもしれない
2:45	um data sharing markets are really kind	ラーん、 データ共有マーケット は本当に親切です
2:46	of bifurcated markets because if i if i	分岐した市場の
2:49	share a copy of data with you	データのコピーをあなたと共有する
2:51	you know sort of if i'm selling data	私がデータを販売しているかどうかはわかりますね
2:53	every every	毎回
2:55	customer becomes a competitor for future	顧客は将来の競争相手になる
2:58	use of that information you know if i'm	私なら知っているその情報の使用
2:59	an academic and i create this really	学者であり、私がこれを実際に作成しています
3:01	amazing new valuable academic data set	驚くべき新しい貴重な学術データセット
3:04	that's going to create a lot of of	それはたくさんのものを生み出すでしょう
3:05	promising research if i just put that	それだけ言っておきますと、有望な研究です
3:07	data online you know i just lost the	オンラインのデータを紛失しただけです
3:10	ability to to to have a piece of	~の一部を持つ能力
3:13	whatever research or you know be a	どんな研究でも、あなたが知っていることでも、
3:14	co-author or whatever it might be of of	共著者でも何でも
3:18	of of what this information ultimately	この情報は最終的に何なのか
3:20	ends up being used for but or if i'm a	but または if i'm a に使用されることになります
3:22	commercial business you know i'm a stock	商業ビジネス、あなたは私が株であることを知っています
3:24	trading firm or or or a uh you know i	商社、または、または、ああ、知っていますか
3:28	build particular product or service that	~する特定の製品またはサービスを構築する 一字号を集みることが会まれます
3:30 3:31	involves gathering a certain amount of data if i give that data to someone else	一定量を集めることが含まれます そのデータを他の人に渡した場合
3:33	all of a sudden you know	突然、あなたは知っていますか
3:35	even if they they don't actually use it	実際に使わなくても
3:37	themselves and they just want to sell it	彼らはただそれを売りたいだけなのです
3:38	like the the supply of that data will	そのデータの供給が
3:40	sort of increase as more people copy it	コピーする人が増えれば増えるほど
3:43	and copy it and copy and share with	それを コピーしてコピーして共有 します
3:44	loads of other people the price goes	他にもたくさんの人がいるから値段は上がる
3:45	down to zero right so there's loads a	右にゼロまで下げると、負荷がかかります
3:47	huge variety of reasons why data that's	データがそうなる理由は多種多様です
3:50	distributed among society might not be	社会に分配されないかもしれない
3:52	shareable to you	あなたに <mark>共有できる</mark>
3:53	for your data science	データサイエンス のために
3:55	right	右
3:56	and the the core premise the core reason	そして核となる前提と核となる理由
3:58	why	なぜ
4:00	privacy and technologies and tools to	プライバシーとテクノロジーとツール

4:02	remote data science are going to	リモートデータサイエンスは、
4:04	increase the amount of data that's	データ量を増やす
4:06	available to you by a thousand fold	1,000倍で入手可能
4:08	is that	それは?
4:09	it's going to make it possible for you	それはあなたにとってそれを可能にするでしょう
4:11	to	(c
4:11	to do data science to answer questions	質問に答えるためにデータサイエンスを行う
4:15	on data that is distributed across	全体に分散されたデータについて
4:18	hundreds if not thousands of other	他にも数千人ではないにしても数百人
4:20	organizations that aren't your own	自分のものではない組織
4:23	right you know you could have access to	アクセスできることはご存知ですか
4:25	data that that normally would require	通常必要となるデータ
4:27	you to to partner with a thousand	あなたは何千人と提携する必要があります
4:29	different organizations right a thousand	さまざまな組織が千通りある
4:31	different data sharing agreements a	さまざまなデータ共有契約
4:32	thousand different you know you know	何千もの違う、あなたは知っています、あなたは知っています
4:34	phone calls and negotiations and and all	電話や交渉などすべて
4:36	the process and rigor and risk	プロセスと厳密さとリスク
4:38	management all the things that would	管理するすべてのもの
4:39	normally be involved with accessing a	通常は、へのアクセスに関与します。
4:41	particularly	特に
4:42	private or or valuable or proprietary or	私的な、または、貴重な、または独占的な、または
4:45	competitive data set	競合データセット
4:47	is going to become	になる予定です
4:48	like browsing the internet right it's	インターネットを閲覧するのと同じです
4:50	going to be it's going to that the	そうなるだろう それはそうなるだろう
4:51	analogy that i like to to use is sort of	私が好んで使うたとえは、ある種のことです
4:53	as telephones are to the internet right	電話がインターネットにつながっているのと同じように
4:56	so to like sort of today's kind of data	今日のようなデータが好きです
4:59	sharing data data sharing agreement	データ共有 データ共有契約
5:01	based ecosystem are to privacy and	ベースのエコシステムはプライバシーと
5:03	technology so like phones are the	電話のようなテクノロジーは、
5:04	internet what like you know today's data	インターネット 今日のデータをご存知ですか
5:06	science tools are to remote data science	科学ツールはリモートデータサイエンスに使用されます
5:09	tools	ツール
5:11 5:13	and this this analogy holds really well because you know the internet didn't	この例えは実によく当てはまります インターネットがそうではなかったことを知っているからです
5:15	necessarily increase the amount of	・ インケーイがいたりではながりたことを知りているかりです ・ 必然的に量が増える
5:17	information that was available to	入手可能な情報
5:19	society you know if you wanted to	カなたが望めばわかる社会
5:21	you know	ほら
5:22	you know the information that now is on	あなたは今出ている情報を知っていますか
5:23	wikipedia you could have bought an	ウィキペディア を買えばよかったかもしれない
5:24	encyclopedia or gone to the library or	百科事典を読んだり、図書館に行ったり、
5:26	whatever if you wanted to buy a plane	飛行機を買いたいなら何でも
5:28	ticket you could call them up on the	チケット で電話をかけることができます
5:29	phone if you wanted to you know get	知りたければ電話してください
5:30	photos from your relatives you could	親戚からの写真があれば可能です
5:31	send it through the mail like like you	あなたと同じように <mark>メール</mark> で送ってください
5:33	know	知る
5:34	the things that we do on the internet	私たちがインターネット上で行うこと
5:35	people were doing before even if you	あなたがいたとしても、人々は以前にそうしていました
5:36	wanted to to watch a movie you could go	あなたが行ける <mark>映画</mark> を見たいと思っていました
5:38	to blockbuster or go to movie theater or	大ヒット作を観たり、 <mark>映画館</mark> に行ったり、
5:40	or just to just purchase purchase a film	または単に <mark>フィルム</mark> を購入するだけ
5:42	um but the internet just radically	えー、でも <mark>インターネットは</mark> 根本的に
5:45	increased the scale and decreased the	規模を拡大し、規模を縮小した
5:47	friction by which this information could	この情報がもたらす <mark>摩擦</mark>
5:49	be distributed but it can only do it for	配布されますが、それができるのは
5:51	for data people are happy to share	人々が喜んで共有するデータの場合
5:52	copies of right only data that that just	正しいデータのみのコピー
5:55	isn't really that valuable or isn't	実際にはそれほど価値がないか、そうではありません
5:57	really that that that you know	本当にそれはあなたが知っていることです
5:58	competitive right or isn't it isn't	<mark>競争権</mark> があるのか、そうでないのか

### Cooperation of the future of of data science the particularly valuable it think it also that particularly personal because the office world most important problems are problems about people inght about about the particularly personal because the office world most important problems are problems about people inght about about the problems about about about the problems about about about the problems about about about about the problems about about the problems about about the problems about about about the problems about about about the problems about about the problems about abou			
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### Comparison of the control of t	6:02	think that that um	それはそうだと思う
##C.GMB/AS-&/思します 1.5 mg	6:05	the future of of data science	データサイエンスの未来
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8:14 you're going to be put in a special あなたは特別な場所に入れられるでしょう			
8:15 place to take advantage of this wave # この波を活かす場所			
	8:15	place to take advantage of this wave	この波を沽かす場所

8:18	before it happens so i hope that that	そうなる前にそうなることを願っています	
8:20	you kind of get a sense of what the	どういうことかなんとなくわかりますね	
8:21	motivation is for these these	モチベーションはこれらのためにあります	
8:23	technologies and um in the the next	テクノロジーと <mark>次の</mark> 話	
8:25	concept we're going to start walking	Concept 僕らは歩き始める	
8:27	through uh just uh the first of several	ええと、ちょうどええと、いくつかのうちの最初のものを通って	
8:30	example use cases so you can get a a	使用例を確認できるようにする	
8:32	very visceral sense of of	~の非常に直感的な感覚	
8:36	the the the	その	
8:38	the the game-changing nature	ゲームを変える性質	
8:40	of of what federated data networks are	フェデレーテッド データ ネットワークとは	
8:43	going to bring so with that i'll see you	それを持っていくつもりです、それで会いましょう	
8:45	in the next concept	次のコンセプト では	
英語 (自	動生成)		

