



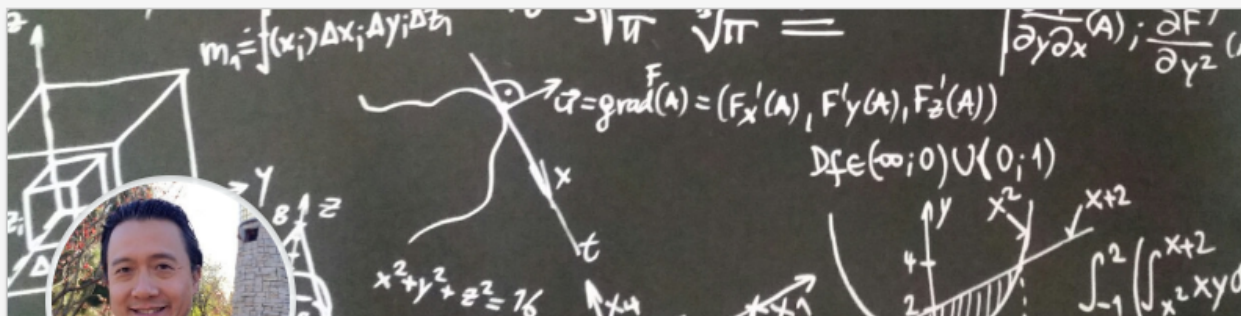
**Artificial Intelligence in Finance**  
*at*  
**Hong Kong University of Science and Technology**

## Course Schedule

Session	Date	Topic	Application & Case Study	In-Class Activity
1	Feb 1	– History and Overview of Artificial Intelligence	– Google Experiments: Draw!	– Kahoot
2	Feb 15	– Supervised & Unsupervised Learning	– Google Experiments: Vision Sensing – <a href="#">Case study: HireVue (Video Analytics for Recruitment)</a>	– Class survey and group formation – Kahoot
3	Feb 22	– Classification vs. Regression – Model Assessment and Selection	– Chatbots – <a href="#">Case study: WorkFusion (Robotic Process Automation)</a>	– Kahoot
4	Mar 1	– Decision Trees and Random Forests – Support Vector Machines	– Credit analysis – Case study: Clover (Temporal Unfolding)	– Kahoot
5	Mar 8	– Neural Network – Deep Learning Introduction	– TensorFlow Neural Network Playground	– Kahoot
6	Mar 15	– Practitioners' Perspectives – Independent Consultation for Projects	– Slido Q&A	– Sharing from researchers and industry professionals
7	Mar 22	– Recurrent Neural Network (RNN)	– Natural language processing – Case study: Deep Instinct (Cybersecurity) – <a href="#">Speaker: Mr. Jeffrey Hui</a>	– Word2Vec – Kahoot
8	Mar 29	– Convolutional Neural Network (CNN)	– Google Image Recognition – Case study: SenseTime (Computer Vision)	– 3D Visualization of CNN – Kahoot
9	Apr 12	– Reinforcement Learning	– Case study: Osaro (Robotics), Ascent (Autonomous Driving)	– Kahoot
10	Apr 26	– Midterm Exam – Independent Consultation for Projects		– TBA
11	May 3	– Recent Advances & Applications of AI – Catalysts & Enablers of AI	– Recap of concepts – Case studies: Airobotics (Drones), Cornami (AI Chip)	– Kahoot
12	May 10	– Frontiers of AI – Challenges in AI Commercialization	– Recap of concepts – Case studies: Prophesee (Computer Vision), Prowler (AGI) – <a href="#">Speaker: Mr. Christopher Lee</a>	– Review of Neural Ordinary Differential Equations (NIPS 2018)
13	May 17	– Synthesis & Outlook		– Final presentations (details TBD)

Note: Details may change depending on class progress, development of relevant technologies, as well as information and feedback from students' surveys.

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Christopher Lee • 1st

Private Investor & Corporate Board Director

Hong Kong

Message

More...

Farron, Augustine & Alexander Ltd

Harvard Business School

See contact info

500+ connections

Mr. Chris Lee is a partner at FAA Investments, a private investment group focusing on real estate, early stage companies and in-depth research on hedge funds and private equity managers. With home bases in San Francisco and Hong Kong, Chris and his partners allocate capital globally. He is fluent in English a...

Show more

### Highlights



78 Mutual Connections

You and Christopher both know Shuonan Chen, Jenny Zhang 张婧, CPA, and 76 others



You both studied at University of California, Berkeley, Haas School of Business

Christopher started at University of California, Berkeley, Haas School of Business before you started



Anthony, explore jobs at Matthews Asia that match your skills

See jobs

Learn the skills Christopher has



Leading Effectively

Viewers: 15,110



Investment Evaluation

Viewers: 14,824



Managing Your Personal Investments

Viewers: 46,467

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Register Now for MIT's 6 Week Online Program in Artificial Intelligence



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# Beyond the Classroom

Session	Date	Topic	Session	Date	Topic
3	Feb 22	– HireVue: Recruiting & AI	8	Mar 29	– LinkedIn & Networking
4	Mar 1	– Company Research: Bloomberg, McKinsey Insights, Zero2IPO	9	Apr 12	– Industry Primer: Investment Banking
5	Mar 8	– PowerPoint Creation	10	Apr 26	– Industry Primer: Management Consulting
6	Mar 15	– CV Writing & Interview Preparation	11	May 3	– Industry Primer: FinTech & VC/PE
7	Mar 22	– Certifications (CFA, CPA, GMAT...)	12	May 10	– Presentation Skills



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**#POLL**



**Robotic Process Automation  
机器人与工序自动化**

Full-stack AI-enabled Robotic Process Automation (RPA) solution suite for business-critical tasks spanning multiple applications and data silos



**Quantum Computing  
量子计算**

Solution provider and platform developer for quantum and classical computing for predictive analytics, forecasting, and optimization



**Computer Vision  
计算机视觉**

Developer of deep learning technology-based computer vision solutions aimed at a broad range of consumer and enterprise applications



**Knowledge Graph  
知识图表**

Dynamically evolving knowledge graphs that provides inference strength across concepts, events and themes derived from a wide variety of information services



**Real-Time Robotics Automation  
实时机器人自动化**

Deep reinforcement learning-based AI software platform that enables enhanced perception, reaction and control in real-time robotics environments



**AI Chips  
人工智能芯片**

Deep reinforcement learning-based AI software platform that enables enhanced perception, reaction and control in real-time robotics environments



**Cybersecurity  
网络安全**

Advanced deep learning technology-based cybersecurity products and solutions for threat detection and prevention



**Music Augmentation  
音乐强化**

Developer of a music augmentation technology that transforms linear music to dynamically personalized music for consumers, ad-agencies, music labels, and producers

**WE'RE  
HIRING!**



### Key Responsibilities

- Keen interest and experience in venture capital transactions and financial analysis
- Familiar with transaction legal documents and investment structure
- Understanding of the commercialization of technologies from an investor perspective
- Conduct due diligence for potential investments in the AI space
- Assist in the preparation of deal-related materials (e.g. data collection, industry research, comparable company and valuation analysis)

### Position Requirements

- Undergraduate or postgraduate students, preferably majoring in Finance, Investments, Legal Studies, and/or Business Analytics
- Experience in using Bloomberg, S&P Capital IQ, Pitchbook, and Wind preferred
- Exposure and understanding of the high-tech industry (especially AI/ML) a plus
- Strong sense of responsibility and attention to details

Availability: Spring and Summer 2019

Number of Openings: 1-2

Remuneration: Market competitive

Office: Central • Hong Kong

If you have sent me your CV, let's talk during the break or after class



**Anthony Woo**

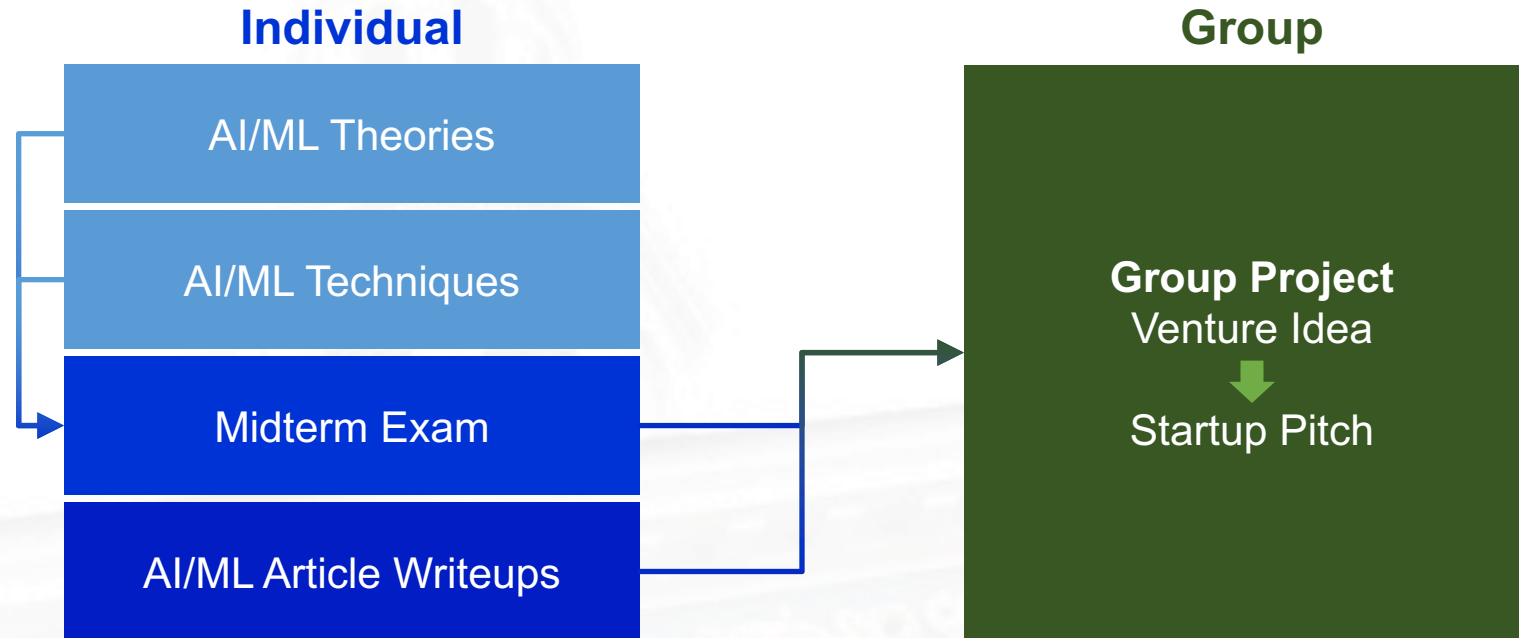
CFA CAIA FRM

Associate Director

Alpha Intelligence Capital

[aw@aicapital.ai](mailto:aw@aicapital.ai)

# Course Objectives



Jan 2019 – Present

**MOSAIC FINANCIAL TECHNOLOGY LTD. (AI/ML startup)**  
**Co-Founder and Chief Technology Officer**

**HONG KONG, CHINA**

- Compiled pitch deck and presented Mosaic's vision and underlying technology to potential investors and AI specialists at HKUST. Created a proof-of-concept (PoC) and demonstrated a prototype
- Devised strategy to drive adoption and compiled reports on the applications of AI/ML techniques. Elaborated on the plans for future product launches. Established Advisory Board with industry experts



**Dear Professor Mathieson:**

**My name is Anthony Woo. I am currently a Master's student at the Faculty of Education here at HKU, and one of the Honorary Career Advisors at CEDARS. Hope all is well.**

**I have started a career development company at HKU leveraging the use of technology in education to help augment career development and vocational training for university students and young professionals. The company seeks to adopt the latest ICT developments, such as big data analytics and adaptive learning mechanisms, in helping job seekers build a solid foundation for their future success.**

**By way of background, I have over eight years of work experience in finance at J.P. Morgan and Morgan Stanley. I completed my MBA at Harvard Business School, and graduated from U.C. Berkeley *summa cum laude* with a B.S. degree in Business.**

**I understand that you must be very busy. But do you have 15 mins to spare so I can learn from your advice and insights on this initiative? Thank you very much.**

**Sincerely,**

**Anthony Woo, CFA CAIA FRM**

**LinkedIn: [www.linkedin.com/in/anthonywoo](http://www.linkedin.com/in/anthonywoo)**

## Endorsements

*"This venture is timely, important and aligned with much of our thinking at HKU about encouraging entrepreneurship, a willingness to embrace failure, and learn from it."*

**Professor Peter Mathieson**  
President & Vice-Chancellor  
University of Hong Kong

*"At HKU, we're delighted to be working with Anthony on such an innovative and impactful project, and we hope it will gain wide support."*

**Professor Ian Holliday**  
Vice-President & Pro-Vice-Chancellor (Teaching and Learning)  
University of Hong Kong

*"This is an ingenious initiative which aims to help students acquire some of the essential skills for planning career development. It has the potential to have a significant impact both for individual students and for organisations providing career services."*

**Professor Stephen Andrews**  
Dean of the Faculty of Education  
University of Hong Kong

## Advisory Board



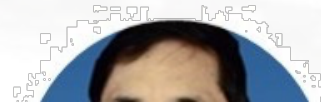
**Prof. Peter Mathieson**  
President & Vice-Chancellor  
University of Hong Kong



**Prof. Ian Holliday**  
Vice-President & Pro-Vice-Chancellor  
(Teaching and Learning)  
University of Hong Kong



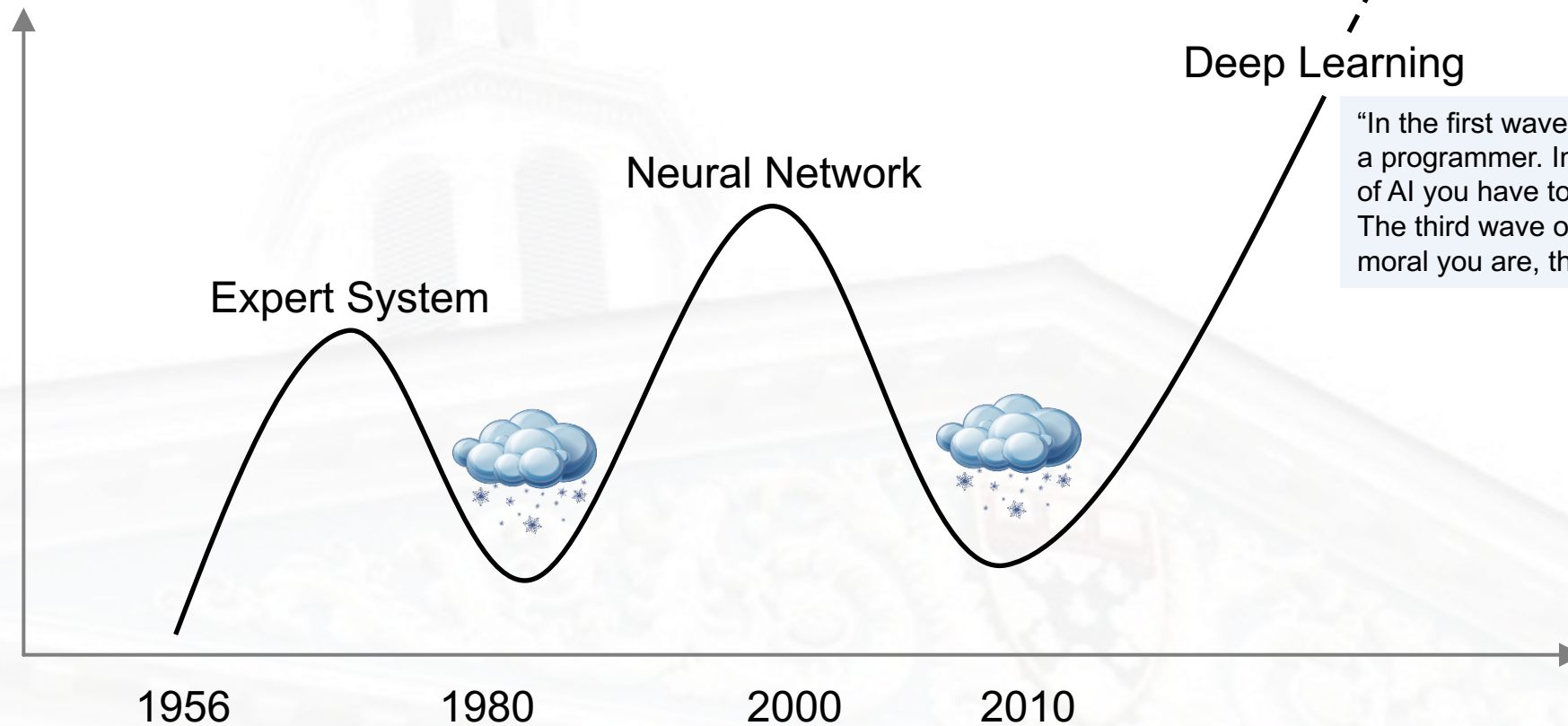
**Prof. Stephen Andrews**  
Dean of the Faculty of Education  
University of Hong Kong



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**#UST**

# History of A.I.



Neural Ordinary  
Differential Equations

Deep Learning

Expert System

Neural Network

“In the first wave of AI you had to be a programmer. In the second wave of AI you have to be a data scientist. The third wave of AI—the more moral you are, the better.”

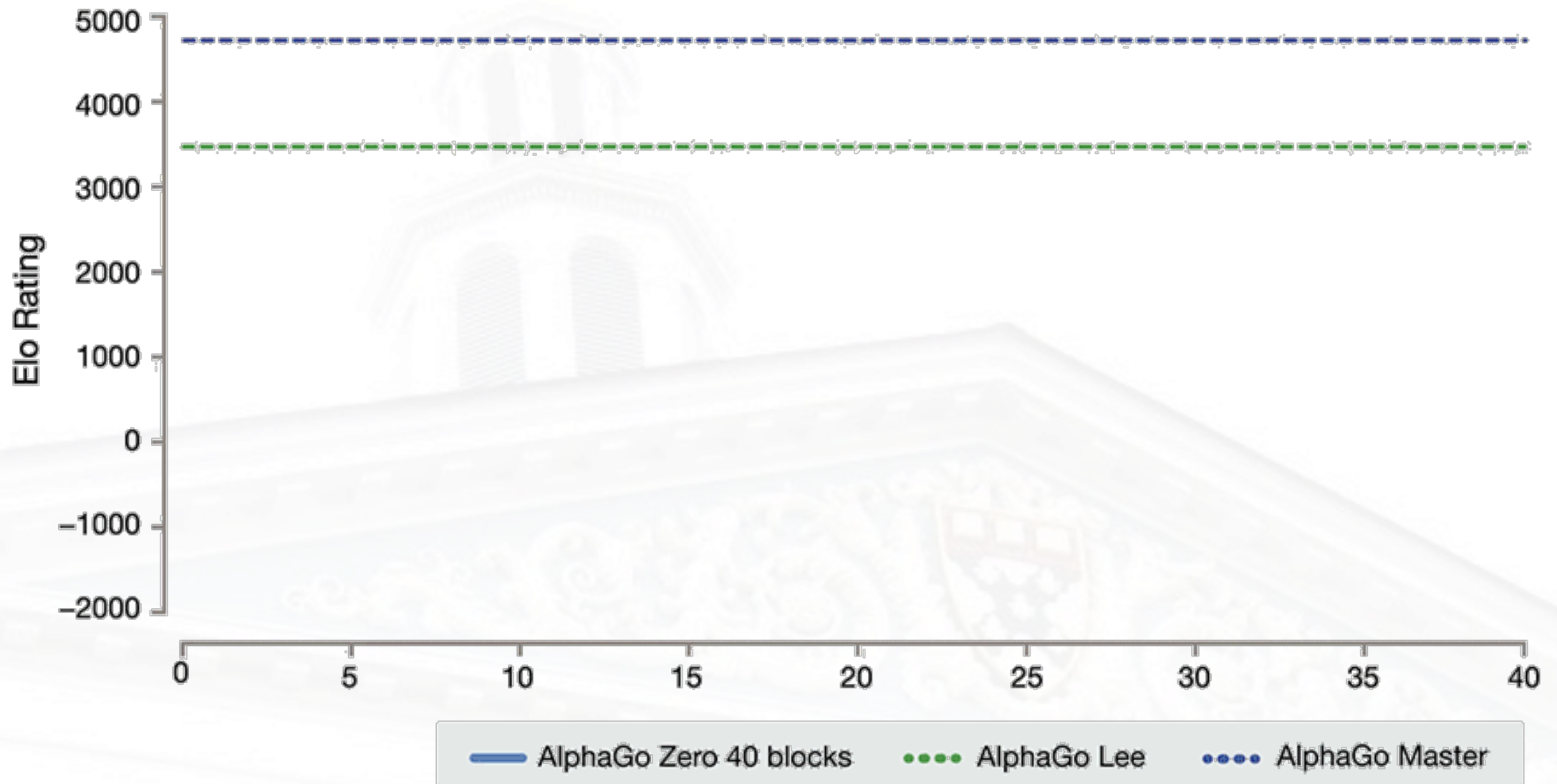






# A Tale of Two AI Camps

Property	Symbolic AI	Connectionist AI
Knowledge Acquisition	✓ Theoretical knowledge insertion can be made in a simple and direct manner. It is sufficient to clarify, convert, and formalize the knowledge.	✗ Theoretical knowledge may not be useful in constructing neural networks, while examples are always required for knowledge acquisition.
Processing Mode	✗ Processing is sequential. Answer and consultation times are long.	✓ Neural networks consist of a set of units with information processing completed in a parallel fashion.
New Knowledge Insertion	✓ Insertion of knowledge (rules) can be made very quickly once experts have already processed them.	✗ Training process is often time-consuming as weights and biases are trained gradually.
Training	✗ Training is not a basic process. Knowledge acquisition is done by explicitation, with potential bottleneck issues.	✓ Training and generalization from examples are fundamental and integrate processes.
Results Explanation	✓ Reasoning process allows for explainability. Knowledge is coded in a language close to natural language, and therefore easily interpretable.	✗ Neural networks are “black” boxes, where knowledge is coded in weights and interconnections, with a lack of access to a form that is interpretable by humans.



# A.I. Landscape: China vs. U.S.

	China	United States
<b>Institutional Norm</b>	Large volume of <u>data</u> via proprietary systems, yet to focus on building innovation capacity. China tends to be averse to adopting the standard metrics structures used by most multinationals. Chinese A.I. initiatives are good at developing facial recognition as well as tools for surveillance and tracking.	A.I. ecosystem with <u>unified standards and cross-platform sharing</u> . More conducive to developing international standards for what is acceptable for law enforcement use of big data and A.I., and how they will be held accountable for abuse. Developing A.I. tools for surveillance and tracking remains a sensitive topic in U.S.
<b>Regulatory Environment</b>	Tends to set regulations <i>after</i> product commercialization. Pursues a strategy of “ <u>military-civil fusion</u> ” in A.I., as China devises a range of policy mechanisms to incentivize industry cooperation. A looser approach to digital regulations means that companies have more freedom to experiment.	Tends to set regulations <i>before</i> product goes to market. The White House has so far been characterized as “ <u>missing-in-action</u> ” in terms of policymaking for A.I.
<b>Industry Structure</b>	<u>592 A.I. companies</u> (23% of global). Came second in the total number of A.I. enterprises in the world in 2017, and contributed 48% of the world’s total A.I. startup funding. A.I. Potential Index = 17.	Ranked first with <u>1,078 A.I. firms</u> (42% of global). Provided 38% of the funding for A.I. startups globally in 2017. A.I. Potential Index = 33.



**USERS  
CONTRIBUTE  
MORE DATA**

**PRODUCT  
GETS  
SMARTER**

The Virtuous Cycle of  
Data Network Effects

**MORE  
PEOPLE USE  
THE SERVICE**

### INFRASTRUCTURE

**HADOOP ON-PREMISE**  
 cloudera Hortonworks  
 MAPR Pivotal  
 IBM InfoSphere  
 bluedata jethro

**HADOOP IN THE CLOUD**  
 Amazon Web Services Microsoft Azure  
 Google Cloud Platform  
 IBM InfoSphere BigInsights  
 Oracle Treasure Data  
 Databricks  
 altiscale  
 CAZENA CenturyLink

**STREAMING / IN-MEMORY**  
 Amazon Web Services databricks  
 confluent stream  
 GridGain METAMARKETS  
 DATATORRENT dataArtisans  
 Oracle hazelcast TERACOTTA

### ANALYTICS

**DATA ANALYST PLATFORMS**  
 Microsoft pentaho alteryx  
 Digital Reasoning guavus AYASDI  
 WATTIVO Datameer Quid  
 ClearStory OrigamiLogic interlana  
 Bottlenose ARIMO ENDOR MODE

**DATA SCIENCE PLATFORMS**  
 IBM KNIME data iku  
 Domino yhat rapidminer  
 Continuum Analytics Alpine  
 Algorithmia Anqoss

### APPLICATIONS - ENTERPRISE

**SALES**  
 Einstein Chorus  
 INSIDESALES.COM  
 conversica  
 clarif AVISO TACT  
 fuse|machines TROOPS

**MARKETING - B2B**  
 RADIUS App Annie  
 EVERSTRING Lattice  
 infer HINTIGO  
 sense tubular  
 Datafix ENGAGIO

**MARKETING - B2C**  
 Zeta bloomreach  
 blueyonder [PERSADO]  
 kahuna ACTIONIQ  
 SAILTHRU BLUECORE  
 mparticle Amperlo

**CUSTOMER SERVICE**  
 MEDALLIA zendesk  
 CLARABRIDGE Gainsight  
 CLICKFOX NG@DATA  
 DigitalGenius appuri  
 AUTOMAT frame.ai  
 msgd INTERCOM

**NOSQL DATABASES**  
 Google Cloud Platform  
 ORACLE Amazon DynamoDB  
 Microsoft Azure MarkLogic  
 mongoDB DATASTAX  
 KEROSPIKE Couchbase  
 redislabs influxdata

**NEWSQL DATABASES**  
 SAP Clustrix  
 Cockroach Labs  
 memsql spicewise  
 MariaDB VOLTDB  
 citusdata Trifacta  
 scoopdb paradigm4

**GRAPH DBS**  
 neo4j IBM ORACLE  
 OrientDB  
 Vintage

**MPP DBS**  
 TERADATA  
 NETEREEZA  
 CObion  
 Kognitio  
 dremio

**CLOUD EDW**  
 Amazon Web Services  
 Google Cloud Platform  
 Microsoft Azure Pivotal  
 Snowflake  
 InfoWorks

**BI PLATFORMS**  
 Microsoft  
 Amazon Web Services  
 Looker Wave Analytics  
 ARCADIA DATA

**VISUALIZATION**  
 Tableau SAP  
 Google Cloud Platform  
 Qlik CELONIS  
 Periscope ZEPL  
 CHARTIO  
 GONDOL

**VERTICAL ANALYTICS**  
 PREDIX  
 CAPE UPTAKE  
 TACHYUS  
 Alubium

**STATISTICAL COMPUTING**  
 SAS SPSS  
 MATLAB

**DATA SERVICES**  
 Palantir  
 OPERA  
 KAGGLE  
 EXL  
 DataKind FF

**HUMAN CAPITAL**  
 HireVue entelo  
 hiQ GIGSTER  
 Lexipol RESTLESS GARDEN  
 Wade&Wendy  
 Clustree Stella  
 pymetrics

**LEGAL**  
 RAVEL Seal  
 Everlaw  
 JUDICIALIA  
 Brevia  
 ROSS  
 casetext

**FINANCE**  
 anaplan  
 Zuora  
 bidmark  
 TRADESHIFT

**ENTERPRISE PRODUCTIVITY**  
 slack  
 facebook  
 ORACLE  
 LUMINA  
 diffbot  
 Clara talla  
 butter.ai KASIST

**BACK OFFICE AUTOMATION**  
 HyperScience  
 Capricity  
 AppZen

**SECURITY**  
 TANIUM CYLANCE StackPath  
 DARKTRACE ilumio CODE42  
 VECTRA Thecus Metrix DataGravity  
 ANOMALI siftscience  
 SCINIFYD OneOne SecurityScorecard  
 BlueTalon Recorded Future feedzai  
 SOCCURE ARESL IORTICAL HighPeak

**DATA TRANSFORMATION**  
 talend pentaho  
 alteryx TRIFACTA  
 tamr Paxata  
 StreamSets UNIFI

**DATA INTEGRATION**  
 Informatica  
 Segment TEALUM  
 enigma aloomo  
 ZALONI  
 xplenty Stitch

**DATA GOVERNANCE**  
 Informatica  
 IBM skyhigh  
 collibra  
 Alation Waterline

**MGMT / MONITORING**  
 Amazon Web Services New Relic  
 APM DYNAMICS Octio  
 WAVEFRONT  
 splunk unravel  
 Tricoro Numerify

**MACHINE LEARNING**  
 Amazon Web Services  
 Google Cloud Platform  
 H2O DataRobot  
 VIZENZE  
 bonsai DATAFLOW  
 Ubanian

**HORIZONTAL AI**  
 IBM Watson Cortana  
 Face++ 可视  
 sentient  
 Voyager  
 Affectiva  
 Ironocam  
 OSARAI  
 CURIOUS AI  
 BLU VISION

**SPEECH & NLP**  
 Google Cloud Platform  
 Amazon Alexa NarrativeScience  
 semantic  
 Mindfield ARRIA IDIBON  
 Talkio  
 snips  
 YESPOT  
 Soundbound Inc.

### APPLICATIONS - INDUSTRY

**ADVERTISING**  
 AppNexus  
 critico  
 theTradeDesk  
 drawbridge  
 TAPPD DataXu  
 Oppier

**EDUCATION**  
 Knewton  
 Clever  
 Cleara  
 kidaptive

**GOVERNMENT**  
 Socrata  
 OPENGOV  
 mark43  
 EN FiscalNote  
 OpenDataSoft

**FINANCE - LENDING**  
 OnDeck Affirm  
 Kredtech AVANT  
 INSIKT  
 MoneyLion  
 TrueAccord  
 cignif  
 aire

**FINANCE - INVESTING**  
 Dataminr  
 KENSHC  
 Quantopian  
 NUMERAL  
 ISENTIUM  
 claritymoney  
 ALGORIZ AEDYA  
 RavenPack

**REAL ESTATE**  
 Opendoor  
 VTS  
 CREDIF  
 reonomy  
 COMPSTAK

**INSURANCE**  
 Metromile  
 Lemonade  
 CVENCE  
 SHRI Technology  
 Tractable

**STORAGE**  
 Amazon Web Services  
 Google Cloud Platform  
 Microsoft Azure  
 ALLUXIO  
 nimblestorage  
 Dumas COHO  
 panasonic

**CLUSTER SERVICES**  
 Amazon Web Services  
 Kubernetes  
 DOCKER  
 MESOSPHERE  
 CoreOS  
 prestodata

**APP DEV**  
 Clightband  
 rainforest  
 CRSK

**CROWDSOURCING**  
 Amazon Mechanical Turk  
 Upwork  
 WorkFusion  
 CrowdFlower

**HARDWARE**  
 Google TPU ARM  
 serverna Graphcore  
 MYTHIC Emboras  
 NVIDIA  
 Movidius SCORTEX

**SEARCH**  
 Elastic  
 ORACLE  
 ENERGA  
 ThoughtSpot  
 Lucidworks  
 swifttype MAANA  
 alphasense  
 Searchr SINEOIA

**LOG ANALYTICS**  
 splunk  
 sumologic  
 loggly  
 kibana  
 logz.io

**SOCIAL ANALYTICS**  
 Hootsuite  
 NETBASE  
 DATASIFT  
 synthesio  
 simple reach  
 bitly predata

**WEB / MOBILE / COMMERCE ANALYTICS**  
 Google Analytics  
 mixpanel AMPITUDE  
 sumall  
 retention  
 SIGOPT  
 granify custora

**HEALTHCARE**  
 FLATIRON  
 HealthTap  
 COTA  
 imago  
 KONG HEALTH  
 HAGEN  
 Veeva

**LIFE SCIENCES**  
 Zymogen  
 BenevolentAI  
 ZEPHYRUS  
 Clear Labs  
 Citrine  
 twoAR  
 Atomwise  
 deep syntetics

**TRANSPORTATION**  
 UBER  
 TESLA  
 CLEARPATH  
 drive ai  
 PTHYS  
 nexor  
 comma ai  
 netradyne

**AGRICULTURE**  
 FARMERS  
 FarmLogs  
 BLUE RIVER  
 mavrx  
 prospera

**COMMERCE**  
 instacart  
 RetailNext  
 HowGood

**OTHER**  
 eHarmony stem  
 nethr robotics  
 hoppers  
 BOKEVER  
 select  
 YESOCSI  
 duetto  
 Unilink  
 Sensus Spectrum

### CROSS-INFRASTRUCTURE/ANALYTICS

amazon web services Google Cloud Platform Microsoft IBM SAP Hewlett Packard Enterprise SAS JOMO data vmware TIBCO TERADATA ORACLE NetApp

### OPEN SOURCE

**FRAMEWORK**  
 Hadoop HIVE  
 HADOOP  
 YARN TEZ  
 Flink MESOS  
 Spark COOP

**QUERY / DATA FLOW**  
 Spark SQL presto  
 SLAMDATA ARACHNID DRILL  
 Google Cloud Dataflow

**DATA ACCESS**  
 nifi mongoDB  
 cassandra  
 CouchDB  
 OPENTECOS  
 SRIK  
 HBASE  
 Spanner accumulo

**COORDINATION**  
 talend  
 Apache Zookeeper  
 Apache Ambari

**STREAMING**  
 Spark  
 Flink  
 kafka  
 chuid  
 STORM

**STAT TOOLS**  
 python  
 ScalaLab  
 NumPy  
 SciPy

**AI / MACHINE LEARNING / DEEP LEARNING**  
 theano Caffe  
 TensorFlow Apache SINGA OpenFl  
 CNTK DM TK  
 Keras  
 VELES WEKA  
 Chainer  
 DIMSUM  
 DSSTNE mlilb  
 DL4J  
 Aerosolve

**SEARCH**  
 Elasticsearch Solr  
 Lucene

**LOG ANALYSIS**  
 Elasticsearch kibana  
 logstash

**VISUALIZATION**  
 BEAKER  
 Rodeo

**COLLABORATION**  
 jupyter  
 ANACONDA

**SECURITY**  
 Apache Ranger  
 KNOX  
 Sentry





fx | Question Number

	A	B	C	D	E	F	G	H
1	Question Number	Question	Answer 1	Answer 2	Answer 3	Answer 4	Correct Answers	Time Allotted to Ans
2	1	Which "wave" of AI are we currently in?	"First"	"Second"	"Third"	"Fourth"	Third	
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35	1	Which "wave" of AI are we currently in?	"First"	"Second"	"Third"	"Fourth"	Third	
36	1	Which "wave" of AI are we currently in?	"First"	"Second"	"Third"	"Fourth"	Third	
37	1	Which "wave" of AI are we currently in?	"First"	"Second"	"Third"	"Fourth"	Third	
38	1	Which "wave" of AI are we currently in?	"First"	"Second"	"Third"	"Fourth"	Third	
39	1	Which "wave" of AI are we currently in?	"First"	"Second"	"Third"	"Fourth"	Third	
40	1	Which "wave" of AI are we currently in?	"First"	"Second"	"Third"	"Fourth"	Third	

## Short CV of Yuan YAO

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ACADEMIC QUALIFICATIONS	<b>University of California at Berkeley, USA</b> Ph.D. Mathematics, December 2006 <ul style="list-style-type: none"><li>• Dissertation: A dynamic theory of learning: online learning and stochastic algorithms in Reproducing Kernel Hilbert Spaces</li><li>• Committee: Stephen Smale (chair), Peter Bartlett, and Steve Evans.</li></ul>	
	<b>City University of Hong Kong, Hong Kong SAR, China</b> M.Phil. Mathematics, June 2002	
	<b>Harbin Institute of Technology, Harbin, China</b> M.S. Control Engineering, July 1998 B.S. Control Engineering, July 1996	
	<b>Hong Kong University of Science and Technology, China</b> <i>Department of Mathematics</i> <i>Department of Chemical and Biological Engineering</i> <i>(by courtesy) Department of Computer Science and Engineering</i> <i>Associate Professor</i>	Aug 2016 - present
ACADEMIC POSITIONS	<b>Peking (Beijing) University, China</b> <i>School of Mathematical Sciences</i> <i>Department of Probability and Statistics</i> <i>Associate Professor with Tenure</i> <i>Professor of Statistics in the Hundred Talents Program<sup>1</sup></i>	July 2015 - present July 2009 - present
	<b>Stanford University, USA</b> <i>Department of Mathematics and Computer Science</i> <i>Postdoctoral Fellow</i>	August 2006 – August 2009
	<b>Hong Kong RGC General Research Fund, award 16303817</b> <i>Principal investigator</i> Social Choice, Crowdsourced Ranking, and Hodge Theory	Aug 2017 - Jul 2020
AWARDS AND GRANTS	<b>Microsoft Research Asia, collaborative research award</b> <i>Principal investigator</i> Active Sampling Strategy (Optimal Budget Plan) for Crowdsourced Pairwise Ranking Aggregation	2015 - 2017
	<b>Baidu, collaborative research award</b> <i>Principal investigator (with Tong Zhang)</i> Statistical Machine Learning Algorithms and Applications for Internet Technology	2015 - 2017



Interact

Encourage

Reward

# Kahoot!

## <https://kahoot.it/>

Please wait for the Game Pin

Use your full name for attendance



# Debrief ② Learn

[www.slido.com](http://www.slido.com)  
#UST  
**slido**



<https://goo.gl/KRoiJt>



**MAFS6010U: Artificial Intelligence in Finance**

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Team leaders should collect the completed forms from the whole team and e-mail them to course TA Mr. Yifei Huang at [aifin.hkust@gmail.com](mailto:aifin.hkust@gmail.com) on or before [February 22, 2019 \(Fri\)](#).



**Basic Information**

English Name	Chinese Name	Photo
Name you prefer to be called:		
Program at HKUST:		
E-mail:		
Student ID:		

**Academic & Professional Background**

What is your undergraduate university and major?

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Brief description of recent work experience (including internships):

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---

Share with us something unique about yourself that is important to you (e.g.



# Codename

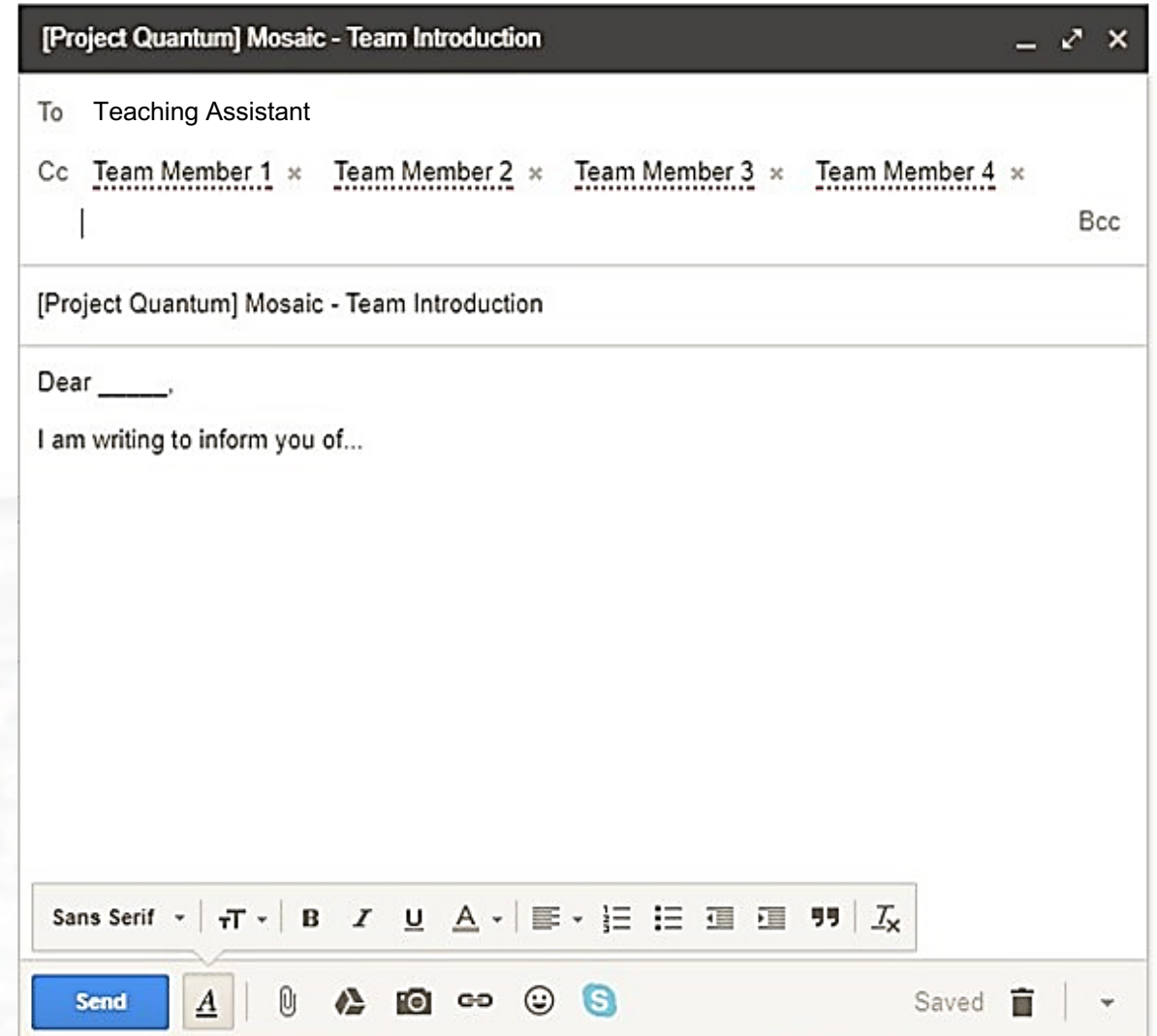
Project Quantum

Project Redbook

Project Dragon

Project Oasis

Project Fire



# Teachable Machine

October 2017 | By Google Creative Lab

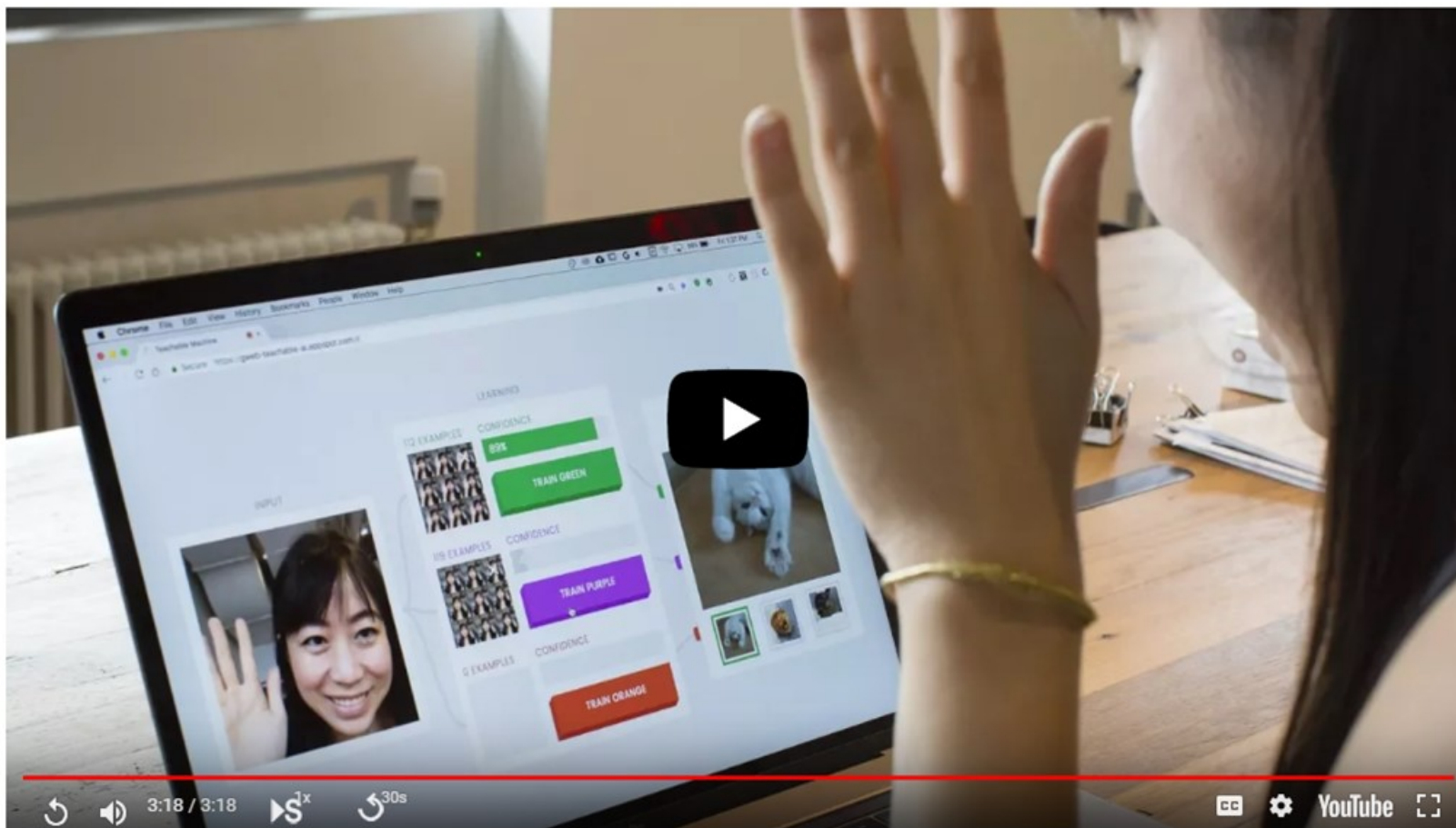
Teach a machine using your camera, live in the browser - no coding required.


COLLECTION:

AI Experiments

LAUNCH EXPERIMENT

GET THE CODE



A person is shown in profile, focused on their work on a laptop. The scene is dimly lit, with a blue light source visible in the upper right corner. The person is wearing a light-colored, long-sleeved shirt. The background is blurred, showing what appears to be an office or laboratory setting with various items on a desk.

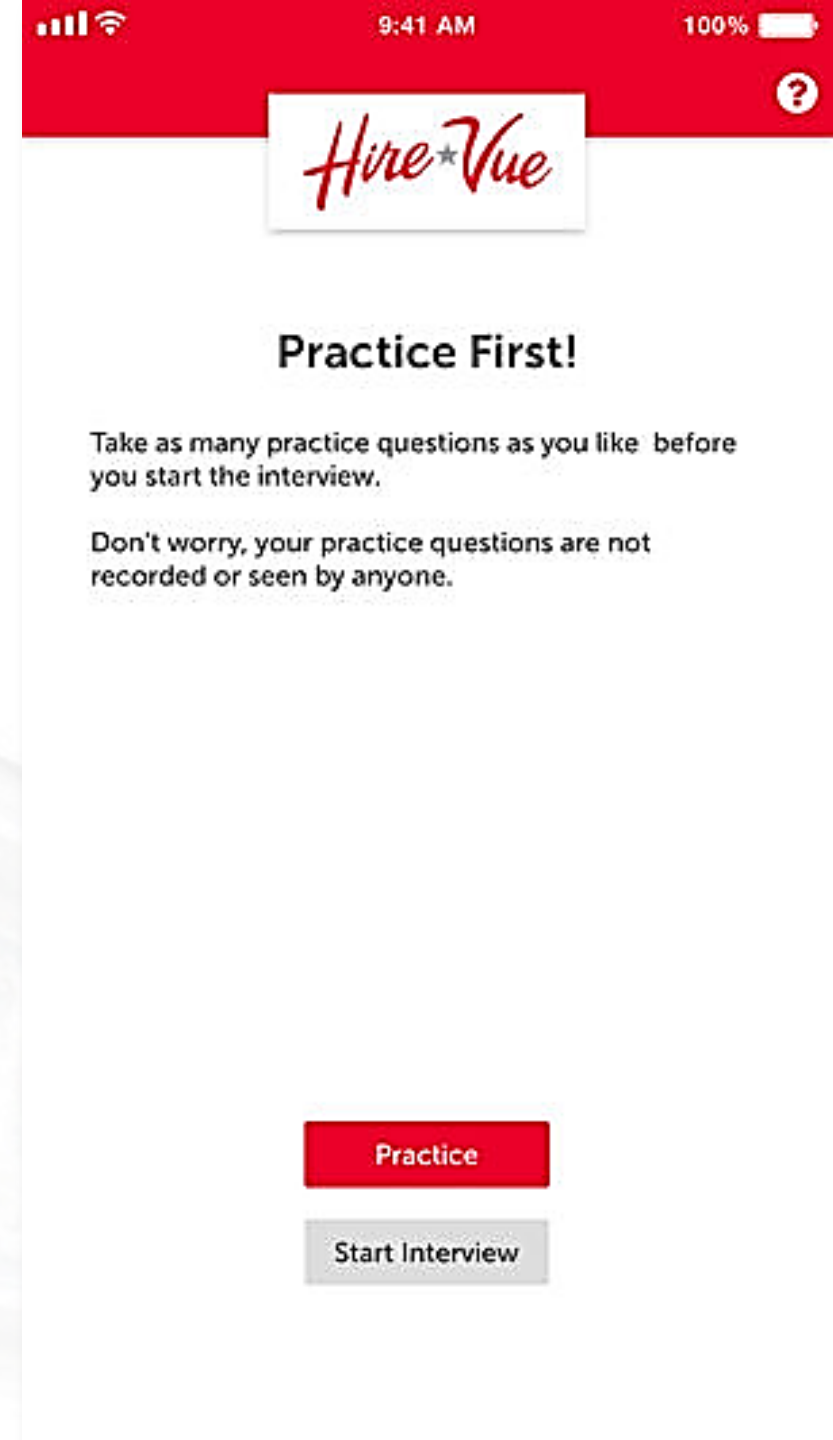
# A.I. Experiments: Teachable Machine

# HireVue Overview

This will be a new experience for many applicants because top banks like Goldman Sachs and JP Morgan have recently begun to use HireVue. It apparently adds 13% more top performers above the client's industry.

**The first interview is provided by HireVue;** however, it will not completely replace the more traditional, intensive recruiting process. If the first interview is successful, then **a representative from the bank will contact the candidate for a second interview.** From then on, any upcoming interviews will be part of the regular interview rounds, involving live interactions with analysts, associates and even VPs and MDs.

You will be given about **20-30 seconds for each question to think of a response.** After that, you'll have about **3 minutes to record your answer.** The amount of time given really depends on the questions. For instance, a question about why you would be the best candidate for the role will require a much longer and thoughtful response than answering a question about what your overall GPA is.







# HireVue Iris™ Deep Learning Analytics Engine

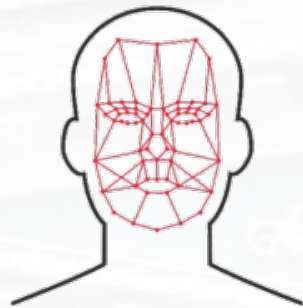
**15,000**  
**PREDICTIVE**  
**ATTRIBUTES**



**100,000X**  
**MORE DATA THAN A RESUME**



# Predictive Power of a Traditional Assessment



150 words/minute \* 20 minutes

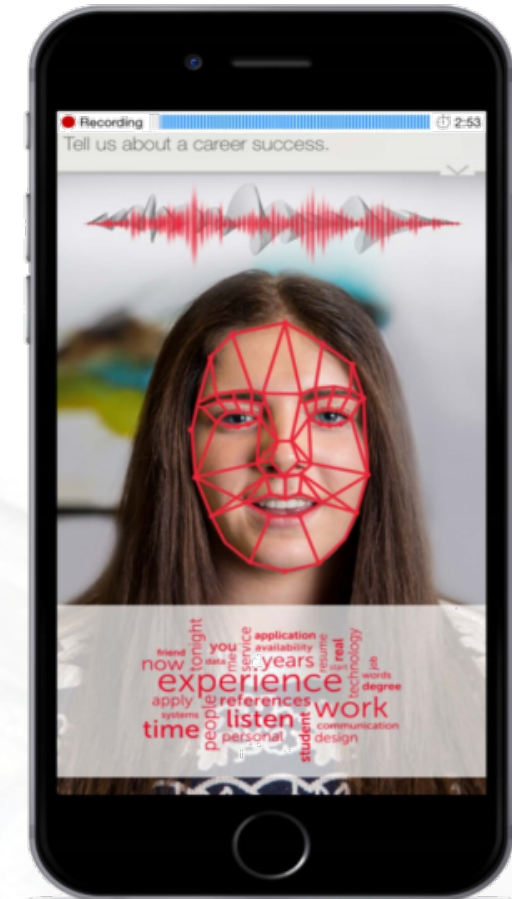
+

50 features/sample \* 10  
samples/sec \* 60 seconds \* 20  
minutes

+

30 features/frame \* 24 frames/sec \*  
60 seconds \* 20 minutes

**= 1.4 M Features**



>4000x More Features Available than a 300 Question Assessment



# Underlying Mechanics

HireVue Iris, a patented deep learning analytics engine that powers HireVue Insights, analyzes a unique data set of interactions, feedback and outcomes that never before existed. Developed by HireVue's data science team, Iris was built based on over **3 million interview responses**. Each candidate interview contains 100,000 times more bytes of data than the resume or profile traditionally used for identifying job candidates. The platform examines attributes in three major categories: **interview attributes**, **behavioral attributes**, and **performance attributes**. Iris's proprietary algorithms discover patterns and learn which attributes predict performance, then **scores each candidate on how they compare to existing top performers**.

Video interview, the recruiter can see the personality, drive, and work ethic of a candidate. Furthermore, this **attracts and captures more candidates from more schools**, because the talent isn't just found from target schools such as those belonging to Ivy League group.

HireVue Assessments evaluates tens of thousands of data points, studying both **verbal and nonverbal content**, including:

- **Word choice and vocabulary**
- **Intonation**
- **Inflection**
- **Facial expressions**



Hello **Awesome Candidate**, welcome to your **Best Job Ever** interview with Your Future Career.



Your interview will consist of:



About 10 Minutes



4 Questions



171.67 MB Upload



By continuing you agree to HireVue's Terms and Conditions



Hello **Awesome Candidate**, welcome to your **Best Job Ever** interview with Your Future Career.

Your interview will consist of:



4 Questions



About 10 Minutes



171.67 MB Upload



By continuing you agree to HireVue's Terms and Conditions







# Sample Questions

- Why are you applying for this position?
- How did you deal with a difficult co-worker in your previous work experiences?
- How did you handle a drastic change in role to achieve a goal?
- Why do you think you are the right candidate for this position?
- What current events are you following at the moment? Why are they interesting?
- Do you have an expertise or unique experience that can benefit our team?
- What is the most important leadership experience you have? And why?
- What efforts do you make to keep abreast of financial markets and business news?
- Why do you want to work for our company?
- What relevant skills have you gained from your past work or internship that are easily transferable and directly beneficial to the new role you're applying for?
- Why are you looking for a new role in our company?
- What were your top responsibilities at your current/previous position?
- What are your three main weaknesses?
- How will you use your background and skills to succeed in his role

# Best Practices

## Logistics

- 30 secs to prepare; 3 mins to answer; do not have to use all 3 mins; a minimum of 10 secs
- Speak slowly with clear pronunciation and polished diction
- Clean camera lens and keep camera at eye level
- Notepad to minimize rambling
- Resume and job description in front of you
- Try not to prop up your phone
- Phone fully charged and strong Wifi (350 Kbps per second)
- Good background, clean desk and computer, bookshelf
- Quiet locale (e.g. carpet and “things” to minimize echo)

## Interview Preparation

- Prepare questions in advance
- Fully utilize sample interview before the real one
- On-demand video interviews are always structured interviews, i.e. same questions, in the same order as everyone else for the position

## Light

- Near window for natural light
- No light source from behind or below

## Dress Code

- Dress up (i.e. professional business attire)

## Demeanor

- Practice to avoid awkwardness and self-consciousness
- Show enthusiasm and maintain eye contact, enthusiasm (i.e. no downcast)
- Keep video feed near camera
- Stand up and “present” if you can
- Not evaluated based on stage presence

## Examples

- Toastmasters International, Enactus, TED





W

Aug 2011  
May 2013

M

**MORGAN STANLEY ASIA** **HONG KONG, CHINA**  
**Associate, Investment Banking Division – Hong Kong Corporate Finance Coverage Team**

- Shangri-La Asia inaugural issuance of US\$600MM under US\$3Bn Medium Term Note Program
- Multiple senior unsecured bond offerings for Hong Kong corporates, such as Kerry Properties (US\$600MM), Hang Lung Properties (US\$500MM), Nan Fung (US\$300MM), and PCCW (US\$500MM)

Summer 2010

**Summer Associate, Investment Banking Division – Technology, Media & Telecommunications Group**

- US\$272MM IPO of Dangdang Inc., China’s largest B2C e-commerce company (equivalent of Amazon)

2006 – 2008

J

**J.P. MORGAN CHASE & CO.** **NEW YORK, NY**  
**Investment Strategy Analyst, J.P. Morgan Private Wealth Management**

- Sole analyst directly supporting the global Chief Investment Officer (CIO) and Chief Economist of PWM

2006 – 2008

**Financial Analyst, J.P. Morgan Private Bank** **SAN FRANCISCO, CA**

Summer 2007

**Financial Analyst, J.P. Morgan Private Bank, EMEA Equity Derivatives Group** **LONDON, UK**

E

**Education**

2015 – 2016

HU

**UNIVERSITY OF HONG KONG** **HONG KONG, CHINA**  
Master of Science in Information Technology in Education (Specialist Strand: e-Leadership), *Distinction*.

2009 – 2011

HA

**HARVARD BUSINESS SCHOOL** **BOSTON, MA**  
MBA. Co-producer, Asian Cultural Show. Advisor, Harvard Innovation Lab (iLab)

2002 – 2006

UC

**UNIVERSITY OF CALIFORNIA, BERKELEY – HAAS SCHOOL OF BUSINESS BERKELEY, CA**  
Bachelor of Science in Business Administration, *summa cum laude* (cumulative GPA: 3.9, top 3% of class).  
Dean’s Honor List (02-06). President, California Investment Association (as-sponsored investment fund)

T

**Technology-related Certifications**

Certificate on Machine Learning for Data & Text Processing at MIT Computer Science and Artificial Intelligence Laboratory (CSAIL). Certificate on Deep Learning and Machine Learning with TensorFlow. Certified Bitcoin Professional (CBP). Conducted research into Probabilistic Topic Modeling using R

CB

MT

TF