Robotics & Al Innovation

0%

<u>@</u>

СV.,

Alan Lee @OGCIO Seminar June 2020

2

3

4

Robotics AI & Big Data Analytics Use Cases

Partner in Data Intelligence

Contents

About Us Digital Transformation Roadmap Robotics Other AI & Big Data Strategy



Alan Lee

Contact: alan.lee@risksis.com Mobile: 60516869

Blockchain & Al Partnership:

Deloitte. pwc

jos

&

Simmons

Blockchain Eco-system:

Banks, HKMA, Ship Owners, Charterers, Traders, Chambers, Inspection, Insurer, Customs ...

Official Big Data Partner: **Cloudera**



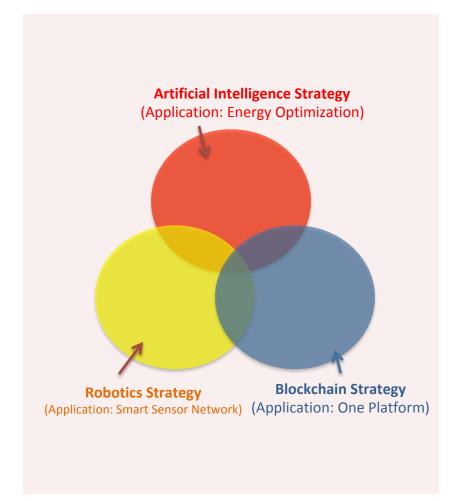
RISKSIS TECHNOLOGY

- ✓ Big Data
- ✓ Artificial Intelligence
- ✓ Block-chain
- Robotics



RISKSIS

Digital Transformation Roadmap



Our Proposed 3-Pillors-Innovation Strategy



© Copyright 2016 Risksis. All rights reserved. Confidential Documents

Robotic Customization

Customized Robot Example: Fever Detection & Disinfectant





Medium-Size Robot

Height: 1.7m Ultra-Strong Motors High-precision Thermal Camera Big-LCD for Guard Display Obstacle Avoidance

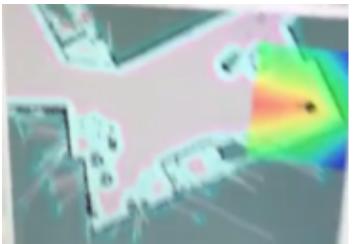


Small-Size Robot

Height: 0.9m High-precision Thermal Camera Strong Motors LCD for Cute-Display & Control Obstacle Avoidance

Thermal Camera Images

Picture on the left shows the robot detects temperature of our teammate sitting in shopping mall

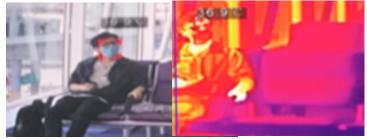


Autonomous Navigation





UV-Type





More Al & System Development Examples

AI Client Examples in Different Industries

各国時代10月7月2日月2日 前の行行には1458年11月20日 Office of the Gavernment Chief Information Officer 6

Hong Kong Government

Smart Traffic – Predictive Analytics

Objective:

- Predictive Analytics in Traffic Impact
- Real time Traffic Speed Prediction for Major Routes and Urban Roads
- Data Sources include historical speed data, rainfall data, news data,
- accident data, incidents data and many more.

Methodology:

Deep Learning - Big Data Artificial Intelligence



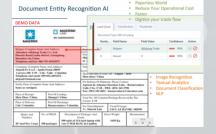
Financial Institutions - Banks AI - Entity Recognition Engine (Paper-to-Electronic Module)

Methodology:

Deep Learning - Big Data + Artificial Intelligence Objective:

- Big Variety of Document format cause rule-based OCR recognition difficult

- Al is used to OCR, recognize paper text and automate the data entry



HVAC & Building Industry / Government AI - Building Energy Saving

Client:

- **HK Government Data Center in China PRC**
- **Buildings in China**
- Methodology:
- **Reinforcement Learning Objective: Energy Saving**

Logistic Company

Big Data Customer Statistical Analytics: Revenue Growth Strategy and Retention Strategy Objective:

- Revenue growth of a client (
- The work of Alan's team:
- Our team collects data from many touch-points of clients such as sales data, marketing, customer service data, phone call data, logistics delivery data, warehouse operation data, email data, social media and transaction data.
- Statistician analysed the business scenario and designed the customer strategy using algorithms We deployed Big Data machine learning to automate the business strategy



Global Technology Group Smart Home Big Data Cloud on Internet of Things / Consulting / Training

Objective:

Our hardware team has developed Smart Home solution controlling electrical appliances via ZigBee wireless technology to control, monitor and provide intelligence.

We have streamlined the data to our big data server farm to provide intelligence for energy saving, product propensity and predictions.



Global Network Security Group AI – Cyber-security NLP Project

Tertiary Education Big Data Employment & Industry Analysis System

Global Retailer

Big Data Recommendation Engine and E-

commerce / Analytic Services

Objective:

Upsell/Cross-sell the retailer's product in E-commerce and Brick-and-mortar. Provide predictive insights on suggesting product and items in online and offline shop. Offline-to-Online (O2O) retail customer upsell by using multi-touch-point data

Algorithm Methodology

Collaborative Filtering and Statistical Analysis

The work of Alan's team:

- Project Manager and business consultant conduct business due diligence
- Our statistician use Statistical Modules to analyze the business and fine tune the parameters on the prediction model by mathematics

Our software developers develop Big data machine learning modules to run the analysis



Telecom Operators Network Equipment Monitoring -**Big Data on Telecom Sensors Network**

Project Example

Telecom Equipment Tester: Our Proprietary hardware telecom equipment Mobile Application Front-end for Control: Technicians can use the mobile phone to remotely control and monitor the telecom equipment and infrastructure

Big Data Analytics

Use Big Data Technologies for large scale data collection from remote equipment Use Classical machine learning algorithms for time series predictions



Warehouse & Industry Associations Big Data & AI – Pose Recognition

Semi-Government Research Group Big Data & AI – Recruitment Trend on NLP on Market information

Client Examples

Al Time Series in Smart City

Contact:

Alan Lee alan.lee@risksis.com Tel: 60516869

Hong Kong Government Smart Traffic – Predictive Analytics

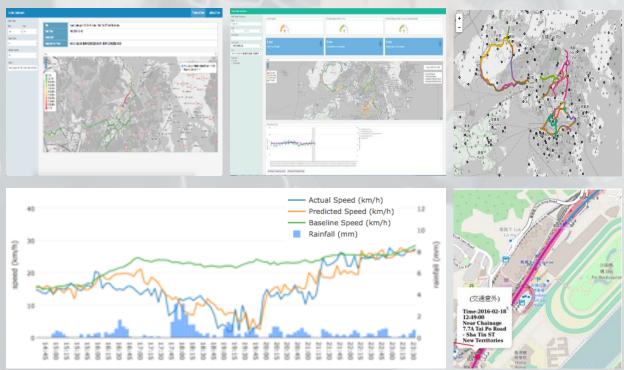


Objective:

- Predictive Analytics in Traffic Impact
- Real time Traffic Speed Prediction for Major Routes and Urban Roads
- Data Sources include historical speed data, rainfall data, news data, accident data, incidents data and many more.

Methodology:

Deep Learning – Big Data Artificial Intelligence



Client Examples

Al in Energy Saving

Contact:

Alan Lee alan.lee@risksis.com Tel: 60516869

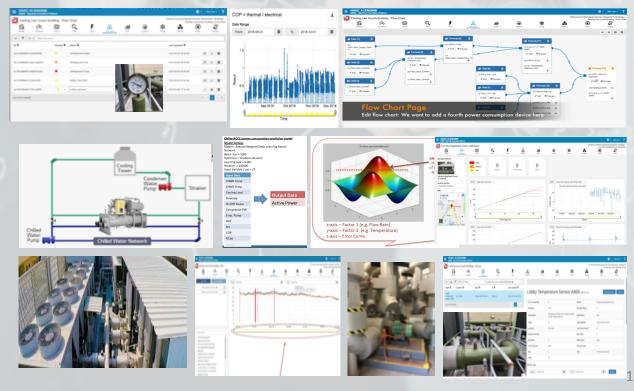
Electrical & Mechanical Energy Saving AI Energy Saving & Optimization – HVAC Chiller

Objective:

- Predictive Analytics in Energy Saving in Building Chiller System
- Data Collections from Building Sensors & External Data
- By suggesting different set-point settings of the system, back-test shows significant Energy Saving can be achieved

(Client: Government Clients; Some Commercial Clients) Methodology:

Deep Learning – Big Data Artificial Intelligence



Client Examples

Al in Mechanics

Preventive Maintenance

Contact:

Alan Lee alan.lee@risksis.com Tel: 60516869

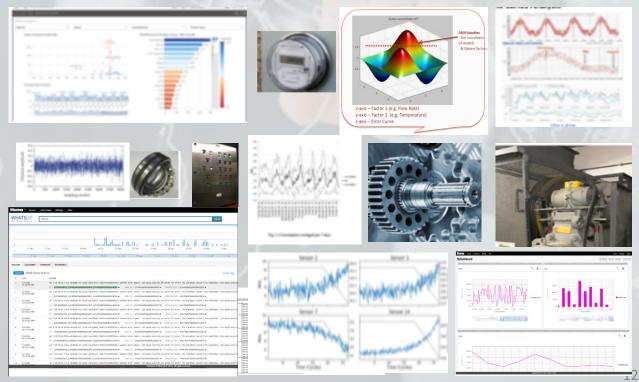
Motors & Mechanical - Preventive Maintenance Al Preventive Maintenance

Objective:

- Predictive Analytics in Preventive Maintenance
- Data Collected from Mechanical Sensors such as Vibrations, Stress.
- By Analyzing time series, predict probability of Fault; root cause analysis; Prioritization of Maintenance Works; Preventive Maintenance

Methodology:

Deep Learning – Big Data Artificial Intelligence



Al in Predicting Trends

Contact:

Alan Lee alan.lee@risksis.com Tel: 60516869

Airline Industry AI – Customer Number Time Series Trend Prediction

Client: Airline clients

Objective:

- Predictive Analytics in Customer Number & Trends
- Data Collected from Different Flights Records, Flights Configuration, Destination, Airlines, Holidays, Events, Economics etc.

Achievement / Business Impact:

- Critical in Operation Team for resources planning
- Great Impact on the Profit / Loss of the Business in Control of Cost
- Important for the prevention of wastages of allocated resource

Methodology:

Deep Learning – Big Data Artificial Intelligence



As requested by Client, pictures are not shown here.

Al in Revenue & Customer Strategy

Contact:

Alan Lee alan.lee@risksis.com Tel: 60516869

Logistic Company Big Data Customer Statistical Analytics: Revenue Growth Strategy and Retention Strategy Client: Global Logistics Client

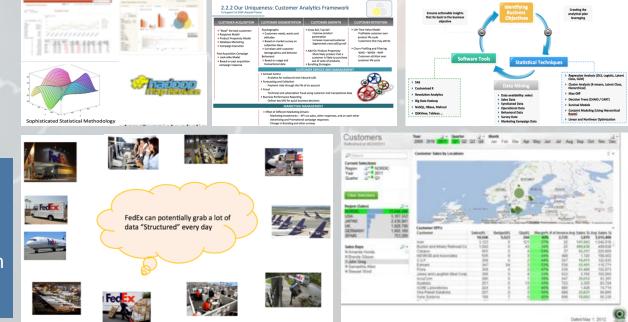
Objective:

- Revenue growth of a client

The work of Alan's team:

- Our team collects data from many touch-points of clients such as sales data, marketing, customer service data, phone call data, logistics delivery data, warehouse operation data, email data, social media and transaction data.

- Statistician analyzed the business scenario and designed the customer strategy using algorithms
- We deployed Big Data machine learning to automate the business strategy **Achievement:** Client successfully raise revenue objective with good satisfaction



Al in Image Document

(Document Image Classification, Information Retrieval)

Financial Institutions

AI - Entity Recognition Engine (Paper-to-Electronic Module)

Methodology:

Deep Learning – Big Data + Artificial Intelligence **Objective:**

- Big Variety of Document format cause rule-based OCR recognition difficult
- AI is used to OCR, recognize paper text and automate the data entry

assification, formation Retrieval)	Docume	ent En	tity Reco	gniti	on /	AI		• Re		ess W Your	orld r Operational	Cost	
mar	DEMO DATA						1		-		trade flow		
2	*	E		7'	Label		Classifi Type: Bill of I		Thumbn	ails			
A the	MAERSK		C GHEO92302HKS		Nu	mb	Field Name		Field \	/alue	Confidence	Action	
	Shipper (Complete Na			-	▶ 1		Shipper		Ailishe	ng Trade	90%	$\odot \oslash$	
	Shenzhen Ailisheng 7 Phoenix Road,Luohu Shenzhen city,China Telephone and fax: 0	district, Guar	igdong	Frei Shij at s	2		Vessel		3		90%	⊗⊘	
	Consignee (Complete) Alejead Pc S.A.S - Ap Carrera 100 5-39 - (Telephone and email: alejead@hotmail.com	ptdo Postal 28 Cali - Valle - C : 059-032-4491	olombia	Nur Place and Shen zher			5 - August - 2	2010		• In	nage Recognit	tion	
Contact:	Notify Party (Complet Same as consignee	e Name And A	ddress)	Agencia d Calle 2 N	le Aduan o. 2*-58 –	as Sias PBX:	Please Conta comex Ltda - (052) 242 27 enaventura ()	- Buenavent 98			extual Analyti ocument Clas		n
	Place of Receipt: Shen Zhen / China		Loading: i / China				schage Receiv		_	• N	LP		
Alan Lee	Place of Delivery: Cali / Colombia		Discharge: entura / Colombia	Carrier: 1 For Trans		—	essel/Voyage		_				
alan.lee@risksis.com				To: Maer			SCL LE HA		w				
Tel: 60516869	Marks And Numbers 20' steel Dry Cargo	No. of PKGS	Go 500 units of 15.6	ods inch laptop	with		Weight 1650 Kg	Measurer Q	100 %	Q,			

Big Data Recommendation

Online-offline Strategy



Contact:

Alan Lee alan.lee@risksis.com Tel: 60516869

Global Retailer

Big Data Recommendation Engine and E-commerce

Objective:

- Upsell/Cross-sell the retailer's product in E-commerce and Brick-and-mortar.
- Provide predictive insights on suggesting product and items in online and offline shop. Offline-to-Online (O2O) retail customer upsell by using multi-touch-point data.

Algorithm Methodology:

- Collaborative Filtering and Statistical Analysis

The work of Alan's team:

- Project Manager and business consultant conduct business due diligence
- Our statistician use Statistical Modules to analyze the business and fine tune the parameters on the prediction model by mathematics
- Our software developers develop Big data machine learning modules to run the analysis
- Our system architect provide service for data management and planning for integrating client's existing infrastructure
- We develop and automate using Big Data Technology
- Achievement: E-commerce revenue growth, O2O brick-and-mortar strategy insights

LLLLLLL





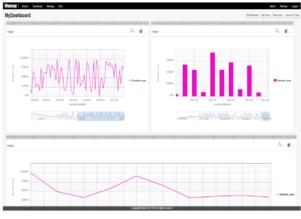




		1010										
844).		(8184)	1881+ 1	0-80.5	41							
51/13 51/14		- 19	845	8448	NIDI	81	10	1904	1804	650	491	
				84	1000	-			2614052	410	100	
	2 商品	BTOS	8	10.002	1000	NE NETS		2182138	2102137	#0.0	1.0	
	2 (0)00	티션	2	10742.0	1000	86 8615	10112 882	2182.911	2182851	421.0	1018	2
			8	00168	1000	86 8615		2182721		*10.0	100	
		11.87	£	210,042	1000	484815	211647	2182724		K00.0	KOR B	
			8	2-1000	1000	88 8815	210887	2182 723		*10.0	100	
			8	2-10482	1000	88.8815	219847	2142723		100	100	
			G	210,000	1000	NE NETS	21887	2582 723		*10.0	100	
			8	210,000	1000	10110	210887	2182 019		****	100	
			2	2-0.002	1000	88 8815	219887	2582 115		110.0	1103	
		11.87	12	210,000	1000	88.8815	21887	2102123		*10.0	10.0	
			9	210.002	1000	88.8815	21887	2182183		128	100	
			£	2-10402	1000	86 8615	219847	2182.549		+2.0	10.0	
			12	2-10002	1000	86 8615	21887	2182123		*10.0	10.0	
		11.80	12	210,000	1000	86 8875	219887	2102111		*===	100	
			8	210,000	1000	86 8615	21887	21821027		128	10.0	
			2	2.000	1000	101001	219887	2182 121	200 - 10	- Cont	100	
			8	2-10.002	1000	-	21887	2182.021	2140 00		120	

AI & Big Data Network Equipment Monitoring

[Telecom Operator] Network Equipment Monitoring – Big Data on Telecom Sensors Network







Smart Meter Numeric Data Log Dashboard

Client Example

MNC telecom Operator

Project Example

- Telecom Equipment Tester: Our Proprietary hardware telecom equipment
- Mobile Application Front-end for Control: Technicians can use the mobile phone to remotely control and monitor the telecom equipment and infrastructure

Big Data Analytics

- Use Big Data Technologies for large scale data collection from remote equipment and sensors.
- Use Classical machine learning algorithms for time series predictions

Contact:

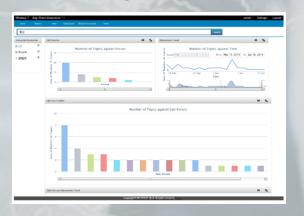
Alan Lee alan.lee@risksis.com Tel: 60516869

Client References [Logistics Association] AI – Activity Recognition	 [Manufacturing Clients] Machine Motor Abnormality Detection & Predictive Maintenance (Al) Client Example: Factory Plants with 150,000 sq feet Machine Predictive Maintenance 	<section-header><section-header></section-header></section-header>
<section-header></section-header>	<text></text>	<section-header><section-header></section-header></section-header>

More Big Data / AI Product References

RISKSIS

Big Data Social Media Data Search Engine



Wall-Street High-Frequency Trading Algorithmic Engine

Big Data Document Management System

Log Files Management and Searching

Log Management

Rung !					
WHATS	JP	***			and and
-	-	-			
	la he	in the		he she she buse buse buse	The the the time time time the time time time the time time to be the time time to be the tin time to be the ti
In Parton			e Date Date 2016	Date Date Date	D Rec 1. Rec 1. Rec 1. Rec 10.
L Arthur	;		inst setend Intelligited address (Sectoria per	Lar 92/0148	
Avert Name	-	_	principles, and practice pdf	tenal config. (units)	. Alamen 2015 te metalan di ente annotan franzit 1991 1998, and te tanen directing .
1 Capital Isonets	÷	치	instalation his selection and an and a selection of a share f	Last operations (100 \$45007#1427 Too 90 50 48	
a Corgiance a Corporate	1	-	jubbiliurum.doc	interfactoria, ranke	. puelitation with schuli qualitation. • Type I within results where a publication is warrantication .
Lownance Linguise	;	W	normalization and the particulation and	Lat open the property (
0.164		-	POAL Highlion pat	Contract Door Time, manufacture (and contract Times and Time	, shallow the composed that respect to respect to the service of the spect that .
2 Interaction Property	:	Ps	normalized in the second se	The PEAK A	
By Loan	1	-	fixed_asset_register_sample.ols	Colored Deville, market	, manham the default to contex. A complete total user equil ensure also included on the effect .
		X	<pre>inclusional init spinolaurings/Exclusion_past st_spinolaurings/Exclusion_past</pre>	111 32 12 48	
		-	FinalReport Department/ParkeendRecreationAudit	Contract Concerning, Supply,	, was provid durb refering bring and hirse was roomer. Fairs estaval-which effected .
		7	NEB.pdf	the tip of	
		_	Ten spinole error Con, to Paulant Seine state de la confectación de la		
		front.	DeDEnergyRanagerilandbook.doc	Construction for Automatical	
		W	 International Conjunities, International antipation and 	ton 120 mB	
		_	ContractPriorEchedule_vessel_810	latest loo fin, marity	, ina item andela a produce of the west, include the costs in a wided item. In case of any is , Consequent and COST of the second second

High Speed Big Data Document Text Searching

Secure Real-Time IP Phone System









Mobile Apps



