



AI & Analytics
CLUSTERTECH

ClusterTech – Use Cases of Natural Language Processing (NLP) and Beyond

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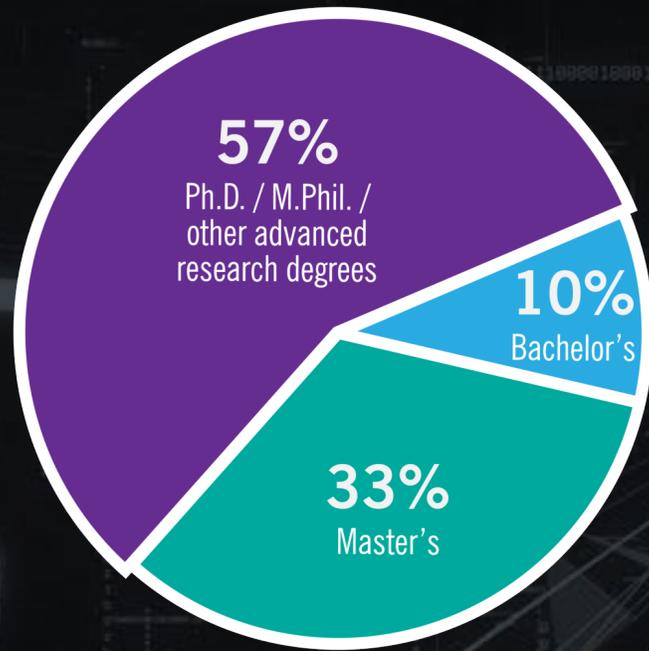
30 June, 2020 at Tech Forum2020



IT Solutions and Data Analytics Consulting Services in 4 Areas

 <p>AI & Analytics</p>	<p>Automate workflows, and uncover insights to improve operational efficiency by : offering data strategy consulting and AI/ML solution development services (on-cloud / on-premises)</p>
 <p>High Performance Computing</p>	<p>Accelerate application processing, and enhance accuracy of forecast, analysis and planning by : designing, implementing and maintaining large-scale HPC clusters</p>
 <p>Cloud</p>	<p>Provide scalable, lightning fast, cloud-based services by : offering private, public, and hybrid cloud solutions, with 24 x 7 local support</p>
 <p>Big Data Infrastructure</p>	<p>Unlock value in big data by : constructing customised big data infrastructures with built-in analytics</p>

A Company of Data Scientists



ClusterTech Data Scientists in HK

Our multi-disciplinary teams are led by domain experts, with PhDs from top universities including Caltech, UC Berkeley, etc.

Serve HKSARG B/Ds for 20* years



20th Anniversary of ClusterTech Limited

ClusterTech Limited serves over 19 years in APAC region and received several big awards. It is trusted and well-recognized by clients.



IFTA FinTech
Achievement
Awards 2018



2016
香港工商業獎
HONG KONG AWARDS
FOR INDUSTRIES
科技成就優異證書
TECHNOLOGICAL
ACHIEVEMENT
CERTIFICATE OF MERIT



The Government of the HKSAR
Accredited Active Suppliers in
IT Professional Services



The Government of the HKSAR
Accredited Public Cloud
Services (GPCS) Providers



Excellence Award on
Operation and Management of
2012 China Cloud Computing
Data Center



10-Year IT Leading
Enterprise Award of
Hong Kong,
Macau and Shengzhen



Excellent Software
Product in China

In 2016, ClusterTech receives a silver award in the Hong Kong ICT Awards 2016 Best Smart Hong Kong (Big Data Application) with its latest technology – PRISMA.



Silver Award
銀獎

HONG KONG
ICT AWARDS
2016 香港資訊及
通訊科技獎

The Challenge of Text

Without Natural Language Processing (NLP):
Text is Unstructured and Noisy.

ClusterTech
PRISMA
Discover the Spectrum of Text Insight

客戶輸入意見....

PRISMA智能分析後

情緒(正) 人名 情緒(正)

“今年嘅Christmas gift set 好抵買, Sales Amy 熱情講解👍”

“可惜支handcream 無最hot嘅strawberry 味。”

情緒(負) 重點事件

With NLP:
Insights



NLP Application 1:

A.I. Knowledge Management :

- Auto-generated Timelines of Events
- Auto-filled Forms
- Auto-generated Relationship Diagrams
- Inconsistency Check/ Change Detection

Customers:

- A Provincial Procuratorate (省級檢察院)
- A Global Bank (POC stage)

The screenshot displays a web-based interface for case management. The top navigation bar includes tabs for '流程绘画', '一审判决', and '人物关系图'. Below this, there are sections for '证人: 王萍' and a list of 20 numbered questions and answers. A search results table is visible at the bottom, listing materials, names, and questions.

材料名称	犯罪嫌疑人姓名	问	答	操作
讯问笔录-孙莖	孙莖	第14问: 你一共往天津贩卖过几次毒品?	就这一次, 一千四百多克。	查看 下载
讯问笔录-孙莖 (第2次)	孙莖	第37问: 你一共往天津送过几次毒品?	就三次。	查看 下载

NLP Application 2:

Processing of Massive Responses to Budget / Policy Address / Consultations

- PRISMA can **classify documents**, **analyze sentiments**, and **extract important information**.

The screenshot displays the 'Document Taxonomy' interface. On the left is a navigation menu with options like 'Doc Management', 'Search Documents', 'Model Management', 'User Center', 'System Config', and 'System Monitoring'. The main area is titled 'Taxonomy Model Management' and contains sections for 'Add Taxonomy' and 'Edit Taxonomy'. The 'Edit Taxonomy' section shows a hierarchical tree structure with categories and their associated document counts:

- 1 AIRPORTS (1662)
 - 1.1 Technology & Flow (322)
 - baggage (31)
 - it (28)
 - passenger flow & experience (208)
 - technology & automation (48)
 - 1.2 Expansion & New Development (949)
 - airport city/ smart city (75)
 - airports with lccs (152)
 - high speed rail (31)
 - new airport (75)
 - new infrastructure (264)
 - policy (86)
 - record traffic/ hub/ congestion/ other infrastructural dev
 - transportation and airport hubs (77)
 - 1.3 Commercial Developments (441)
 - airport charges (263)
 - financial (11)
 - retail (173)
- 2 AIRPLINES (3015)
 - 2.1 Profitability & Operating Environment (257)
 - operating environment (170)
 - profitability (84)

The screenshot shows the PRISMA document search and analysis interface. It includes a search bar at the top with a 'Clear all' button and a 'Show More' link. Below the search bar are fields for 'File name' and 'File Type' (set to 'ALL'). A 'Free text' search field is also present. The main content area displays a list of documents, with the first one selected. The document details include:

- Document Title: Announcement Finance
- Created: PRISMA-SPiKing 2018-02-05 20:52:00
- Document Content: A preview of the document text, which appears to be a financial announcement in Chinese.
- Document Type: Meeting Minutes Asset Management
- Created: PRISMA-SPiKing 2018-02-05 20:52:00
- Last Modified: PRISMA-SPiKing 2018-02-05 20:52:00
- Document Properties: A table showing file name, file type, site, document library, creator, creation date, last modified date, and last modified by.

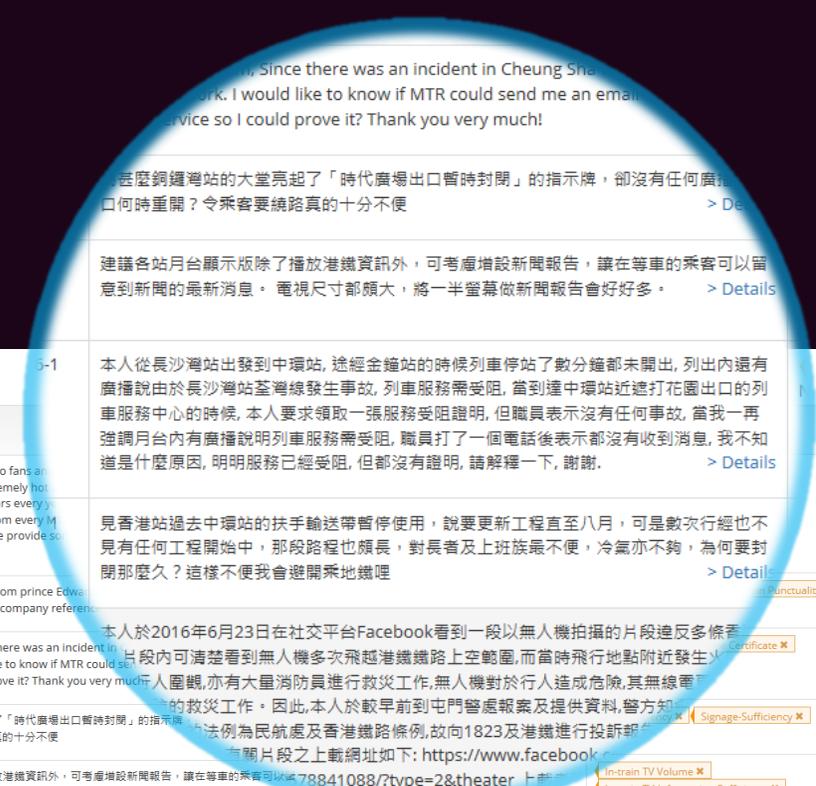
NLP Application 3:

Public transportation

- A public transportation company wanted to be able to respond quickly to **customer opinions** about conditions in stations/services by **auto-classification** and **sentiment detection**.



ID	Comment	Category
EDITF003335/2016-1	Wondering why there are no fans and a warm area on both side. Extremely hot. MTR earns over a billion dollars every year. It was totally different from every MTR station. Increasing rapidly but please provide some solution. Please do not kill us.	
EDITF003341/2016-1	Hi I got delay on the train from prince Edward Road. I need a proven document for my company reference.	Train Punctuality
EDITF003342/2016-1	Dear Sir or Madam, Since there was an incident in Cheung Sha Wan station, I would like to know if MTR could send me an email to confirm the affected service so I could prove it? Thank you very much!	Request for Certificate
EDITF003343/2016-1	為甚麼銅鑼灣站的大堂亮起了「時代廣場出口暫時封閉」的指示牌，卻沒有任何廣播說明何時重開？令乘客要繞路真的十分不便	Signage-Sufficiency
EDITF003344/2016-1	建議各站月台顯示版除了播放港鐵資訊外，可考慮增設新聞報告，讓在等車的乘客可以留意到新聞的最新消息。電視尺寸都頗大，將一半螢幕做新聞報告會好好多。	Train TV Volume, Train TV-Information Sufficiency
EDITF003345/2016-1	本人從長沙灣站出發到中環站，途經金鐘站的時候列車停了數分鐘都未開出，列出內還有廣播說由於長沙灣站荃灣線發生事故，列車服務受阻，當到達中環站近連打花園出口的列車服務中心的時候，本人要求領取一張服務受阻證明，但職員表示沒有任何事故，當我一再強調月台內有廣播說明列車服務受阻，職員打了一個電話後表示都沒有收到消息，我不知道是什麼原因，明明服務已經受阻，但都沒有證明，請解釋一下，謝謝。	Request for Certificate, Train Punctuality
EDITF003346/2016-1	見香港站過去中環站的扶手輸送帶暫停使用，說要更新工程直至八月，可是數次行經也不見有任何工程開始中，那段路程也頗長，對長者及上班族最不便，冷氣亦不夠，為何要封閉那麼久？這樣不便我會避開乘地鐵	Others



NLP Application 4:

Telecom

- A telecom company wanted to correlate feedbacks with the Net Promoter Score (NPS) in order to prioritize on ways to improve its services.





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Thank You !

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