
香港科技大學
THE HONG KONG
UNIVERSITY OF SCIENCE
AND TECHNOLOGY
Big Data Institute

Funding Support

Industry Applications

Scientific Research

Talent Training


Recruit
talents in
academia
Navigate
research
development
Industrialize
scientific
achievements and
create long-term
impact to the world
Aspire innovation
and breakthrough
Benefit the
Greater Bay Area
(HK / Macau /
Guangdong),
Greater China
Region and the
world
BRAIN
Mission
and
Vision

BDI Achievement Highlights

45+ faculty from **interdisciplinary** Schools and Departments for
100+ students **8 collaborative R&D projects and 4 joint labs**

Accumulated over **HK$ 108 million** & **US$ 1 million**
industrial sponsorship and donation
with one of the largest government-funded ITF Smart City Project

1st

WeChat **Overseas Joint Lab** in Asia
Line/Naver **Overseas Joint Lab** in the **World**
HKPC HKUST's **first joint research lab with a statutory body in Hong Kong**

Trained **750+ BDT Master Students**

Partnership with **leading companies**

Microsoft, Alibaba Cloud, HKSTP, xiao-i 小i机器人, ByteDance, 京东, 中国南方电网, NVIDIA, 中国石油勘探开发研究院 RESEARCH INSTITUTE OF PETROLEUM EXPLORATION & DEVELOPMENT

and more…

BDI Team

At present, there are more than **45 faculty members** and over **100 students** involved BDI's **8 research projects** from

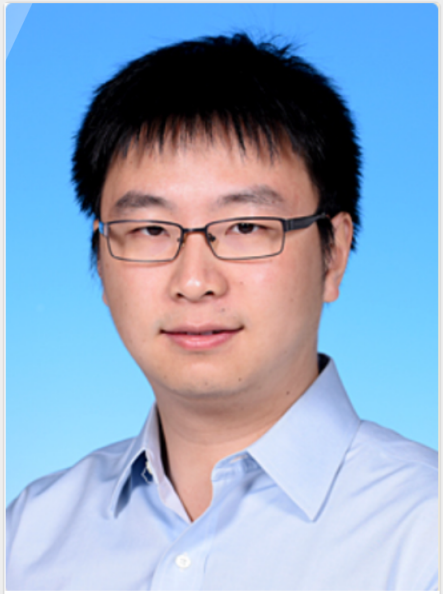
- School of Engineering
- School of Science
- School of Business & Management
- Department of Computer Science and Engineering
- Department of Industrial Engineering and Decision Analytics
- Department of Electronic and Computer Engineering,
- Department of Chemical and Biological Engineering
- Department of Information Systems, Business Statistics and Operations Management
- Department of Mathematics
- Division of Life Science
- Division of Social Science

DIRECTORS

DIRECTOR

Bo Li

Chair Professor, Department of Computer Science and Engineering, HKUST



ASSOCIATE DIRECTOR

Wei WANG

Associate Professor, Department of Computer Science and Engineering, HKUST

FOUNDING DIRECTOR

Qiang Yang

Chair Professor, Department of Computer Science and Engineering, HKUST

BDI

Our Team

Industrial Partners and Donation

BDI

2015 RMB ¥ 10 million Tencent

2016 US$ 1 million *Mr. Raymond Chu*

2015 HK$ 10 million ITF (Innovation and Technology Fund) Smart Transportation project partnered with THALES

2016 HK$ 20 million ITF (Innovation and Technology Fund) Smart City project partnered with 神州数码 Digital China

2018 HK$ 5 million Ying Ding Education Technology Co., Ltd

HK$ 2 million Donation Forgame

HK$ 1 million Space Tactics Asset Management 思彼思 p2s SPACE

HK$ 2.46 million NAVER

2019 xiao-i 小i机器人

2020 RGC-RIF Project HK$ 5.6 million

2022 HKUST-HKPC Joint Research Lab HK$ 12 million

2023 HKUST-China Unicom Joint Laboratory on Smart Society HK$ 12 million 中國聯通 China unicom

and more...

Industrial Partners and Donation

2024

HKUST-Alibaba Joint Laboratory on Big Data and Artificial Intelligence

HK$ 12 million

OUR LABS

WHAT Lab

BDBI-Machine Learning Lab

香港科技大學 – 阿里巴巴
大數據與人工智能聯合實驗室
HKUST-Alibaba Joint Laboratory on
Big Data and Artificial Intelligence

香港科技大學 THE HONG KONG UNIVERSITY OF SCIENCE AND TECHNOLOGY

Alibaba

Smart City Lab

HKUST-Ying Ding Education AI Lab

中國聯通 China unicom

NAVER

HKUST-NAVER/LINE AI Lab

香港科技大學 - 香港生產力促進局
工業人工智能與機器人聯合研究中心
HKUST-HKPC Joint Research Lab for Industrial AI and Robotics

思彼思 o2o SPACE 思彼思商業控股（集團）

AGT 高陞創科有限公司 Accel Innovations Limited

xiao-i 小i机器人

Forgame


香港科技大學
THE HONG KONG
UNIVERSITY OF SCIENCE
AND TECHNOLOGY
BIG DATA INSTITUTE
WeChat-HKUST Joint Lab
on Artificial Intelligence
WHAT Lab
李兆基商學大樓
Lee Shau Kee Business Building

2015-11-26 WHAT Lab was established in HKUST

Tencent entered into a 5-year research partnership with BDI since late 2015, amounts to RMB10 million in total.

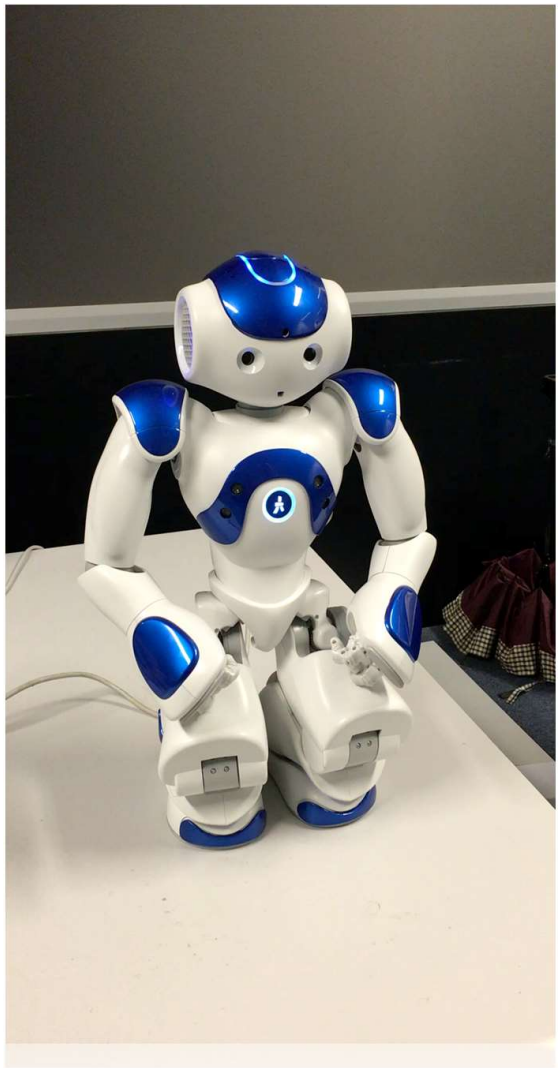
WeChat and HKUST will jointly conduct Artificial Intelligence (AI) Technology related research and explore the far-reaching frontiers of AI. This collaboration on AI research is expected to be long-term and world-leading. Research areas of WHAT LAB include intelligent robotic systems, natural language processing, data mining, speech recognition and understanding.

Machine Reading aims to develop Machine Learning algorithms that could read and comprehend natural language documents as humans do.
With Machine Reading, natural language information is converted to the form that could be processed by computers, and could be further utilized in applications such as summarization, question answering and dialogue system.

Aims at social networking big data mining and machine learning, natural language processing and robotics research.

- Natural language processing
- Data Mining & Visualization
- Video Analysis
- Large –Scale Machine Learning
- Robotic Application


WHAT Lab
Machine Reading: Breakthrough in Natural Chinese Processing
It aims to develop Machine Learning algorithms that could read and comprehend natural language documents as humans do, the technique can be further utilized in applications such as summarization, question answering and dialogue system.
➢Natural language processing
➢Data Mining & Visualization
➢Video Analysis
➢Large –Scale Machine Learning
➢Robotic Application
据印度报业托拉斯报导，当地时间2日，在巴基斯坦接壤印度的巴方边境口岸瓦格赫发生了一起自杀式炸弹袭击。根据最新消息，这起袭击事件造成了至少55人死亡，其中包括了孩子和安全人员，另有近200人受伤。巴基斯坦官员表示，此次的事件是一起自杀式袭击。
NEWS
Human
印巴边境发生自杀式袭击致55人死亡
Machine
巴基斯坦发生自杀式炸弹袭击事件造成至少55人死亡



Dialog Robot

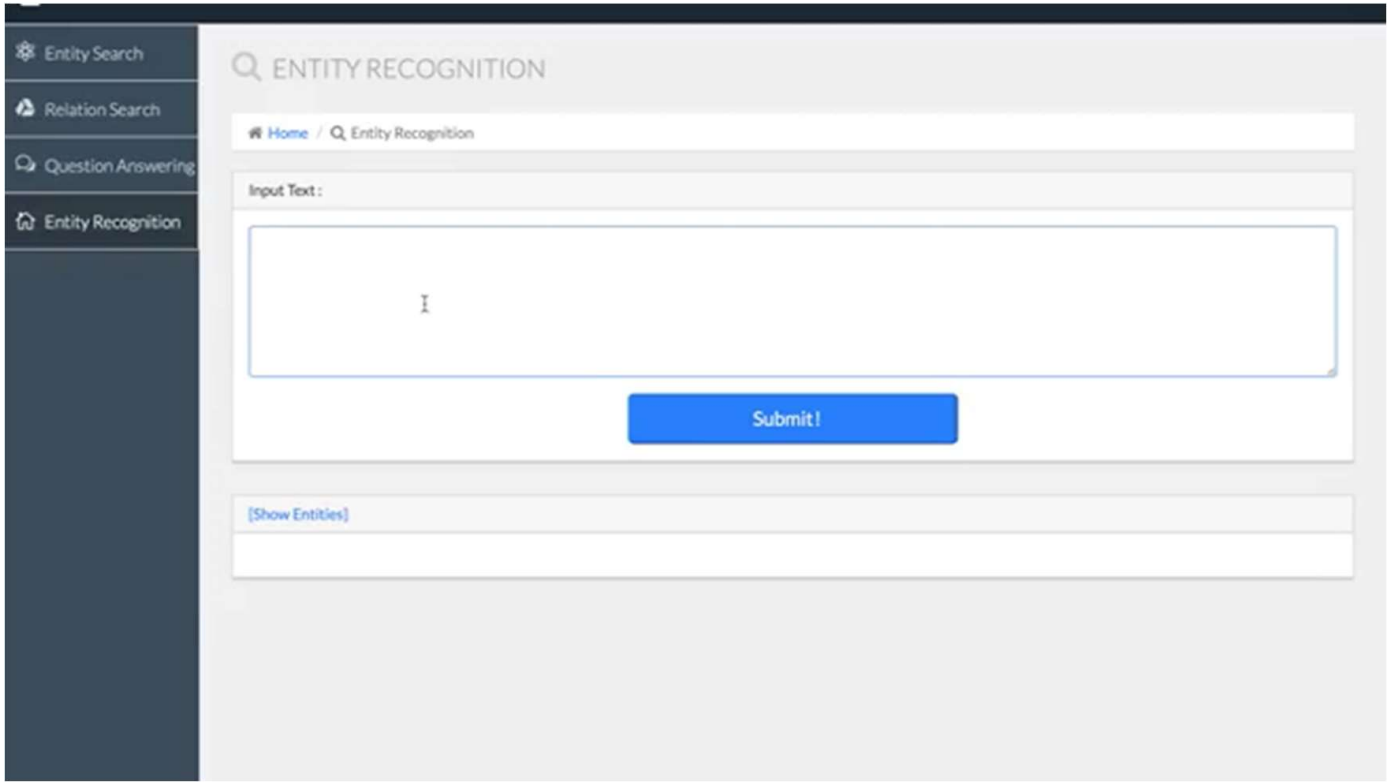
Through the dialogue system, computer information can be translated into natural language description, and human language can also be translated into computer information, so as to achieve human-computer interaction.

Reinforcement and transfer learning, can be used to solve the problem of dialogue system. Reinforcement learning can solve the problem of delayed feedback in multiple rounds of dialogue, while transfer learning can help target areas by using data from similar fields, which can solve the problems of traditional intensive learning data.

WHAT Lab

Domain Specific Knowledge Graphs

- Medical Knowledge Graphs



Model-based Global Localization for Aerial Robots using Edge Alignment

Kejie Qiu, Tianbo Liu and Shaojie Shen

香港科技大學
THE HONG KONG
UNIVERSITY OF SCIENCE
AND TECHNOLOGY

High resolution video available at:

http://www.ece.ust.hk/~eeshaojie/ral2017kejie.mp4

WHAT Lab

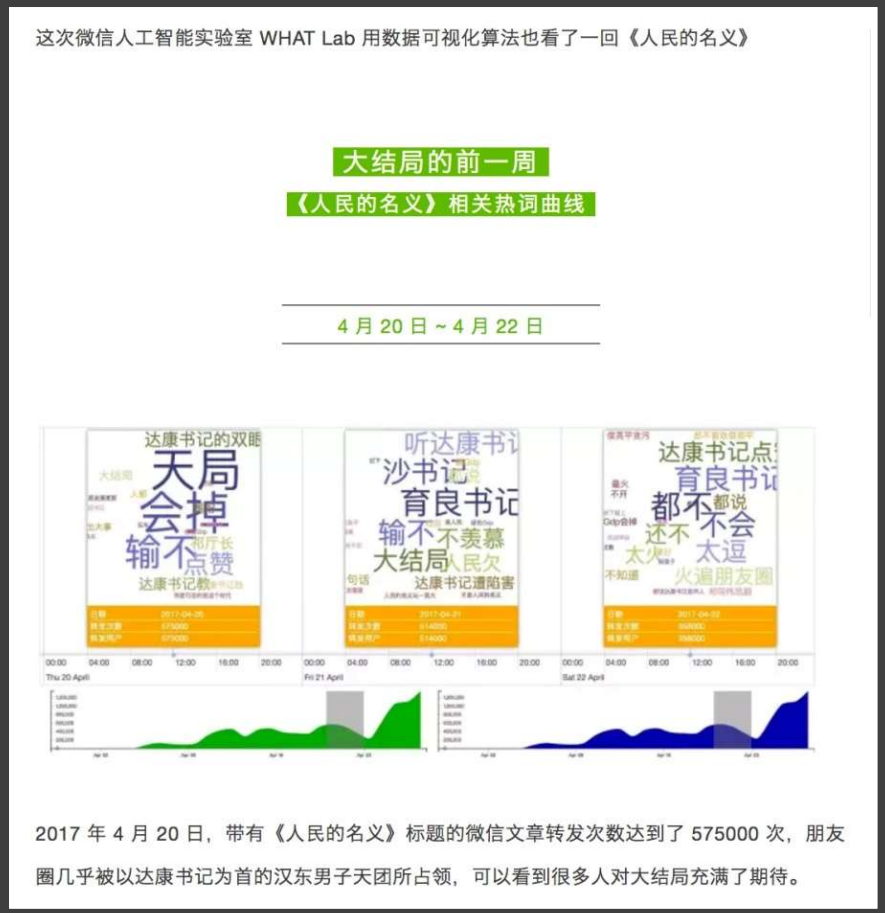
WeChat Crowdsourcing Platform

The WeChat Crowdsourcing Platform is designed and developed by WHAT Lab and WeChat team together. Researchers can publish crowdsourcing tasks on the platform and WeChat users can participate in and get monetary rewards. Different mechanisms for task assignment and answer aggregation are equipped and plenty of real tasks from HKUST and Tencent have been published and finished on the platform. It is both a useful tool for data labeling and an industry level crowdsourcing research environment.

WHAT Lab

WeSeer System: go online

WHAT Lab



The WeSeer system developed by WHAT Lab was deployed and applied to WeChat, Tencent for daily propagation analysis. The system enable to analysis how official public account article information propagate in WeChat platform from different perspectives, involving a 3D global overview, time-varying propagation view, community detection view, etc.


香港科技大學
THE HONG KONG
UNIVERSITY OF SCIENCE
AND TECHNOLOGY
BIG DATA INSTITUTE
Big-Data Bio-Intelligence
and Machine Learning
Lab
BDBI
李兆基商學大樓
Lee Shau Kee Business Building

The Big Data for Bio Intelligence Laboratory (BDBI)

Donation by Mr. Raymond Chu: US $1 million

Devote to the development of advanced machine learning systems and promoting applications of machine learning in bio and genetic areas, aims to become a leading laboratory in the research of big data for biological intelligence and to bridge the knowledge gap between academics and practitioners.

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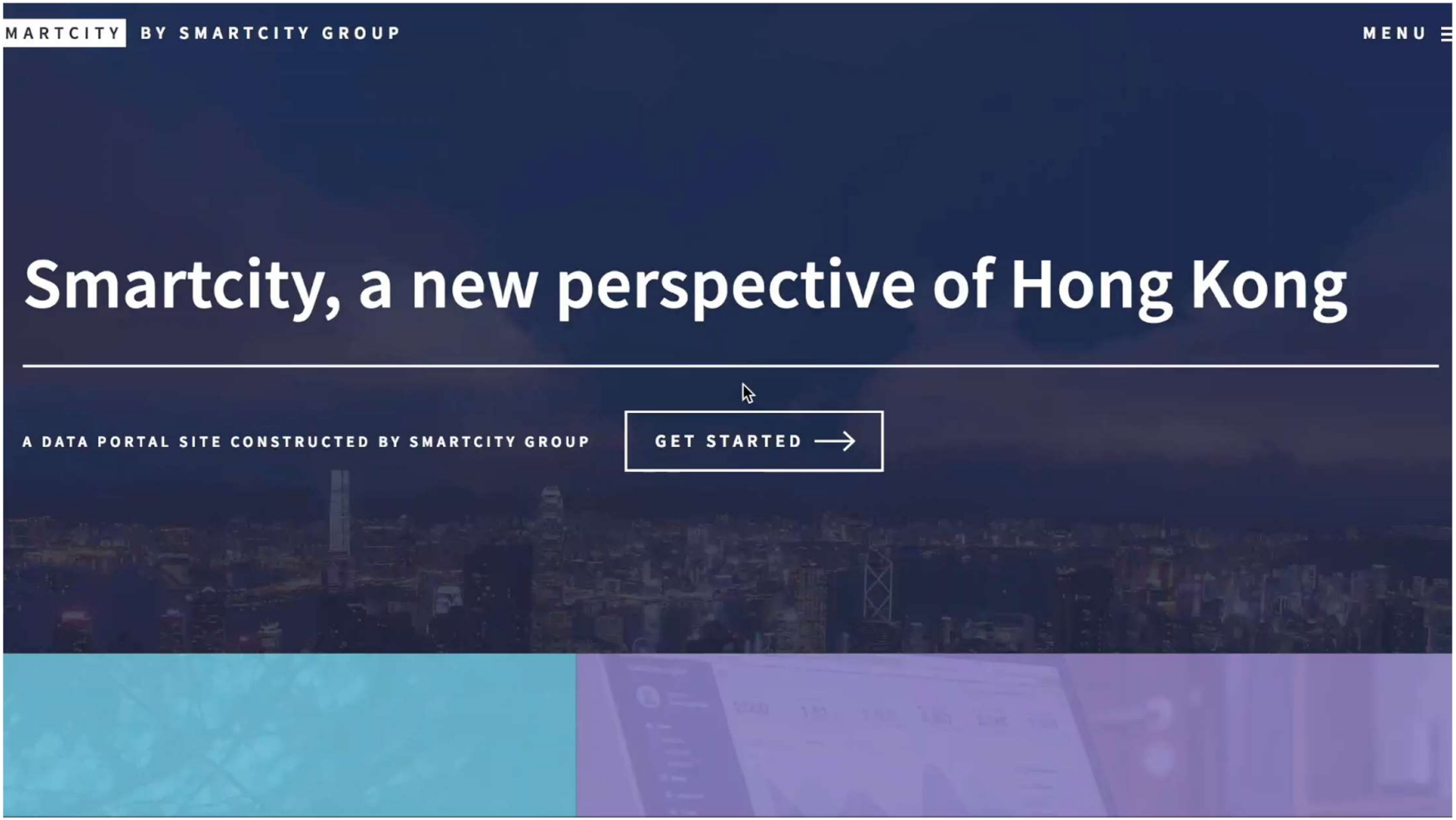
BIG DATA INSTITUTE

Smart City Lab



Smart City Lab

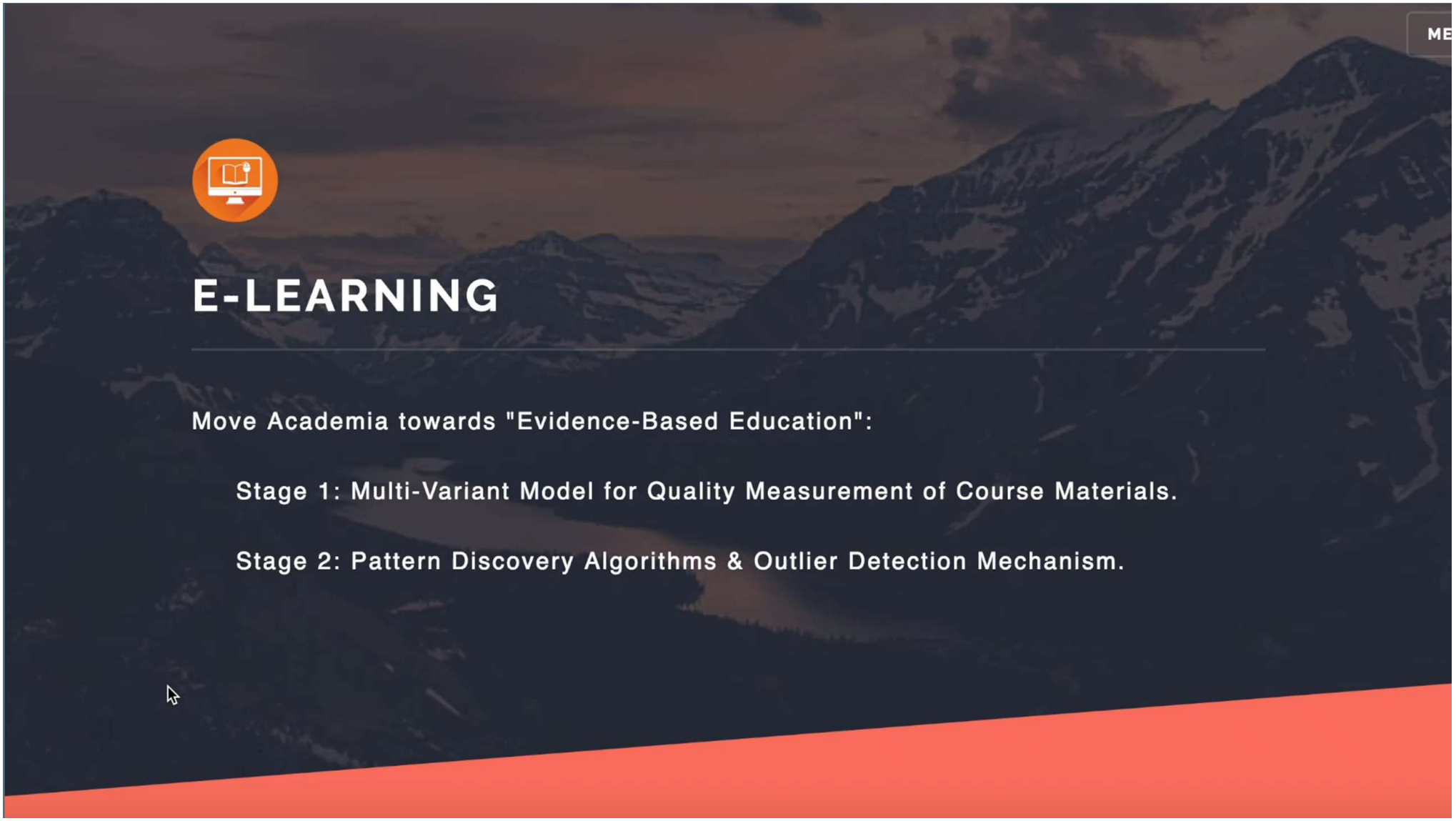
Smart Ridesharing

With the cooperation of DiDi (the biggest online car-hailing company in Mainland China), we can utilize the huge amount of data generated by millions of drivers and customers to help the company improve the efficiency of their services and the user experience of both drivers and customers.

We help DiDi to design smart vehicle dispatching strategies and dynamic pricing strategies such that the efficiency of the ridesharing service can be improved, and the overall profit of the platform can increase.

A fare price?

Smart City Lab


ME
E-LEARNING
Move Academia towards "Evidence-Based Education":
Stage 1: Multi-Variant Model for Quality Measurement of Course Materials.
Stage 2: Pattern Discovery Algorithms & Outlier Detection Mechanism.

Objectives of the platform

- Effectively monitoring and directing the crowd in railway stations so that early warnings can be given on potential dangers.
- Ensuring smooth operation of railway transport system by predicting potential major equipment failure.
- The platform will cover a number of frontiers of big data research, including data integration, data analysis, human factors, optimization/visualization, transfer of learning, simulation and operational research.

Smart City Lab

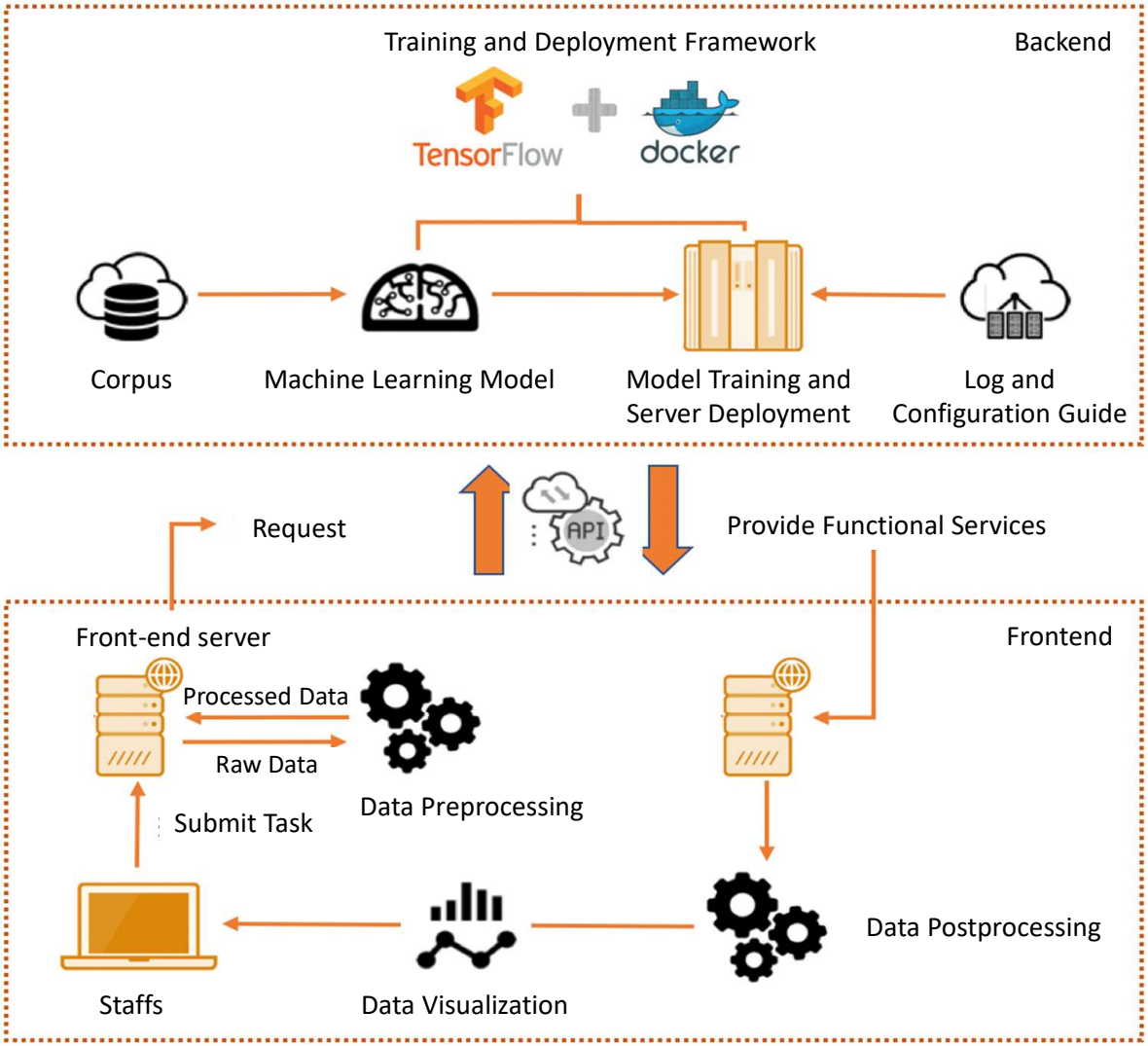
NEW PROJECT

广东电网

Guangdong Grid Co.

Intelligent Document Assistance System

- New word discovery based on left and right entropy and internal solidification
- Correction of typos based on neural network
- Research on entity recognition model based on neural network
- Picture text detection and recognition algorithm
- Seal extraction and recognition algorithm



NEW PROJECT

Intelligent Document Assistance System

NEW PROJECT!

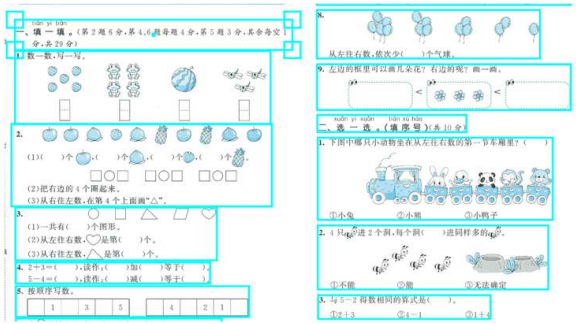
OCR Based Exam Questions Recognition and Searching System

Scan

Picture generation

Layout analysis

Question identification



OCR system recognizes the text in the questions

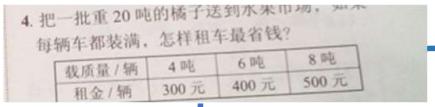
OCR

Store the processed picture and text information in database

Analyse data with a full-text search database

Paper exercise book

User-taken pictures



OCR

Personalized OCR system: recognize special numeric types

Text content recognition

Graphic recognition

Graphic typesetting information

Search for similar questions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BIG DATA INSTITUTE
HKUST- Ying Ding
Education AI Lab
李兆基商學大樓
Lee Shau Kee Business Building

HKUST- Ying Ding Education AI Lab

Ying Ding Education co. funded HK$5 million to establish a collaboration with BDI for founding an AI lab.

HKUST- Ying Ding Education AI Lab

The Lab focuses on developing collaborative programs for the purpose of strengthening educational research collaborations and development of blended learning initiatives.

- ✓ Development of Blended Learning Platform and Pilot Program
- ✓ Collaboration on Mainland Educational Activities
- ✓ Collaboration on Educational Data Analysis

香港科技大學
THE HONG KONG UNIVERSITY OF SCIENCE AND TECHNOLOGY

BIG DATA INSTITUTE

hkpc 生產力局 NAVER

AGT Axcel Innovations Limited 思彼思 o2o SPACE xiao-i 小i机器人

Forgame 中國聯通 China unicom

Established Joint Labs

李兆基商學大樓
Lee Shau Kee Business Building

Joint Labs

HKUST – China Unicom Joint Laboratory on Smart Society

The lab aims to develop a platform for HKUST and China Unicom to explore frontier research and applications in the area of Smart Society, Advance Telecommunication, Internet of Things (IoT), Big Data and AI technique. The Joint Laboratory will initiate projects covering key areas such as smart cities, industrial internet, artificial intelligence (AI) computing power and cybersecurity. The facility will also proactively participate in Hong Kong Government (HKSAR Government) and related national initiatives to promote the commercialization of research achievements.

HKUST-HKPC Joint Research Lab for Industrial AI and Robotics

The lab aims to develop innovative industrial technologies that can address the technical challenges being faced by the manufacturers and provide practical solutions with the adoption of artificial intelligence (AI) and robotics technology, helping to enhance the productivity of industries in Hong Kong and s fostering intelligent and advanced manufacturing and industrial innovation and technology (I&T) talent development.

Joint Labs

HKUST-Alibaba Joint Laboratory on Big Data and Artificial Intelligence

Alibaba

The lab aims to advance the understanding, application, and system support of big data and AI technologies in the era of large language models (LLMs) and multi-modality AI; to facilitate research collaborations between HKUST and Alibaba in the field of language models, data systems, AI cloud, computer architecture, and privacy-enhancing technologies for big data and AI applications; and to nurture students, faculty, and young talents through research projects, internship, seminars, and other research activities.

HKUST-Accel Joint Laboratory on Internet of Things (IoT)

AGT
高陞創科有限公司
Accel Innovations Limited

Joint Labs

HKUST-Xiaoi Robot Joint Lab on Machine Learning and Cognitive Reasoning

The Joint Lab will emphasis on integrating machine learning and cognitive reasoning to build the next generation AI system with high credibility and cognitive capabilities. It will also train student talent in AI and foster research and industry collaboration, contributing to the societal and economic development of Hong Kong and the Greater Bay Area.

Digital Currency and Blockchain Research Lab

The Lab will support research and training of postgraduate / postdoctoral students related to FinTech and blockchain.

Health Data Analytics Lab

The Lab will support research related to data science and provide a platform for nurturing young researchers.

HKUST-NAVER/LINE AI Laboratory

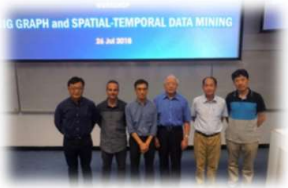
The lab aims to develop a comprehensive set of research and talent-development programs to pursue cutting-edge research for advancement of AI technology and enrich the learning experience for students.

Conference and Workshop on Big Data and Biomedical and Chemical Science

BigDatathon

Big Data and AI Day

FinTech Forum



Distinguished Lectures, Seminars, Workshops

Social Impact

Organize Distinguished Lectures, Seminars, Workshops, Competitions, Forums to facilitate knowledge transfer

大公網 新闻 评论 视频 财经 艺文 专题

首页 > 新闻 > 港闻 > 正文

科大与生产力局办创科中心 研究机器人

2022-06-14 04:23:49 大公报 字号

分享

图：科大与生产力促进局昨日宣布成立工业人工智能与机器人联合研究中心。

【大公报讯】香港科技大学与香港生产力促进局，昨日宣布成立香港科技大学—香港生产力促进局工业人工智能与机器人联合研究中心。联合研究中心旨在研发创新工业科技，解决制造商面临的技术挑战，并提供应用了人工智能和机器人技术的实用解决方案，协助香港工业界提升生产力和推动培育智能及先进制造工业的创科人才。

凭借生产力局实现智能制造的专业知识和丰富经验，以及科大在人工智能和机器人领域的先进研究，全新成立的联合研究中心将通过一系列措施紧密合作，应对现实世界的各种挑战，从而造福香港、国家以至全世界。

联合研究中心将会专注研发四大重点科技范畴，工业人工智能、大数据、数据科学和机器人；并将初步开展反射性自由造型物件表面瑕疵侦测、细微瑕疵侦测、椗颈辨别与根本原因分析的流程挖掘、产品设计自动化等科研项目。

HKUST Establishes Laboratory on Big Data for Bio Intelligence

科大設大數據生物智能實驗室

■左起：陳繁昌、朱慧恒、副校長(研發及研究生教育)李行偉、楊強合照留影。 科大供圖

香港文匯報訊 （記者 高鈺） 香港科技大學昨正式成立大數據生物智能實驗室，為生物學及醫療保健方面設計大數據分析方案，實驗室將由科大新明工程學教授、計算機科學及工程學系講座教授兼系主任楊強，及數學系講座教授兼系主任汪揚共同領導。

科大校長陳繁昌特別鳴謝實業家朱慧恒的捐助，又指大數據的應用將會為人類的生活帶來革命性的轉變，有關研究是該校策略發展方向之一，而隨着實驗室的成立，他深信科大能為大數據研究的迅速發展帶來新見解。

大數據生物智能實驗室的研究範疇包括「深度學習方案」，即透過豐富功能描述機器的學習問題，從而讓電腦作出決定；以及能讓電腦模型輕易地在不同領域中應用的「直推式遷移學習」。實驗室亦會專注研究基因養殖，令過程更為自動化和易於使用，以及配

◀HKUST and HKPC Launch Joint Research Lab for Industrial AI and Robotics Fostering Intelligent & Advanced Manufacturing and Industrial I&T Talent Development

人民网 people.cn 人民网 >> 港澳

香港致力打造大数据驱动的智慧城市

2016年06月29日12:42 来源：新华社 分享到：

原标题：香港致力打造大数据驱动的智慧城市

“我们的口号是要把香港打造成大数据驱动的智慧城市。”香港科技大学计算机科学与工程学系系主任杨强对新华社记者说，在他的牵头下，科大组织了一批专家开展智慧城市建设的研究和大数据的应用。

香港特区行政长官梁振英在《２０１６年施政报告》中也提到，特区政府将与科研及公私营机构共同研究建设智慧城市。特区政府创新及科技局（创科局）将负责制定智慧城市的数码架构和标准。

创科局回应记者关于香港智慧城市建设构想时表示，将于２０１６年下半年开展一项顾问研究，为香港制定一个整体策略、发展计划、管治安排、数码架构、一个至２０３０年的智慧城市蓝图，并提升城市管理和改善市民生

▲HKUST Signed Framework Agreement with Digital China to Build Smart City Research Institute

Social Impact

BDI pursue to bring positive influence to the community and lead the tread in top technology field

HKUST Becomes the First University Partner Worldwide with NAVER/LINE to Set Up AI Lab

韓母公司Naver 投放246萬

World Experts in Big Data and Artificial Intelligence Gather at HKUST to Share Insights into Future

26-05-2017

The Big Data Institute (BDI) of the Hong Kong University of Science and Technology (HKUST) today (Friday) organized its first Big Data and AI Day, playing host to a stellar assemblage of world top academics and industry celebrities in the realm of Big Data and Artificial Intelligence (AI), sharing information and insights into the future of this trendy field.

Since the establishment of the BDI in 2016, its first Big Data and AI Day drew a learned audience of over 500 guests, including local and overseas academics, leaders in the Big Data and AI-related industries, as well as students from various tertiary institutions in Hong Kong and abroad. The overwhelming attendance attested to the key role of HKUST's research in these fields.

Dr Tieniu Tan, Vice Minister of the Liaison Office of the Central People's Government in Hong Kong, officiated at the symposium. In his keynote speech on big visual data analysis, Dr Tam said, "Hong Kong is a great place for Big Data and AI, and Big Data and AI are a great hope for Hong Kong, making the place smarter and stronger."

Delivering the opening remarks, President Chan said, "Research into Big Data and AI is one of HKUST's strategic

Dr Tieniu Tan, Vice Minister of the Liaison Office of the Central People's Government in HKSAR (7th from right), HKUST President Prof Tony F Chan (6th from right), Vice-President for Research and Graduate Studies Prof Nancy Ip (7th from left), Dean of Engineering Prof Tim Cheng (5th from

专访微信人工智能实验室：社交网络已成为人工智能的一个热点

l 作者 杜小芳 发布于 2015年12月19日. 估计阅读时间: 不到一分钟 l 讨论

分享到: 微博 微信 Facebook Twitter 有道云笔记 邮件分享

腾讯旗下微信团队和香港科技大学于11月30日宣布成立联合实验室，WeChat-HKUST Joint Lab on Artificial Intelligence Technology，简称：WHAT Lab。该实验室将以人工智能

港科大聯手微信建「智能實驗室」

HKUST and WeChat Establish Joint Lab on Artificial Intelligence Technology

室」，由楊強領衔。他對大公報表示，香港在AI領域有很多做機器學習、深度學習、機器翻譯的優秀深耕於學術界，希望由此開始打開兩地在人工智能領域的合作。

楊強介紹，香港科技大學在人工智能，機器人和大數據領域在世界上都是處於領先地位。機器學得多項世界比賽冠軍，包括ACM KDDCUP大賽、諾基亞大賽以及ImageNet。在遷移學習、統計機器域也引領世界研究潮流。學校研究的情感機器人被「科學美國人」報道，大學出來的創新公司包括世大學雲集國際著名協會的院士，包括幾十名IEEE Fellow。楊強本人也是國際高等人工智能協會（AAAI

Social Impact

BDI pursue to bring positive influence to the community and lead the tread in top technology field

HKUST BDI

Benefit the Greater Bay Area (HK / Macau / Guangdong), Greater China Region and the world

Industrialize scientific achievements and create long-term impact to the world

Aspire innovation and breakthrough

BRAIN

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