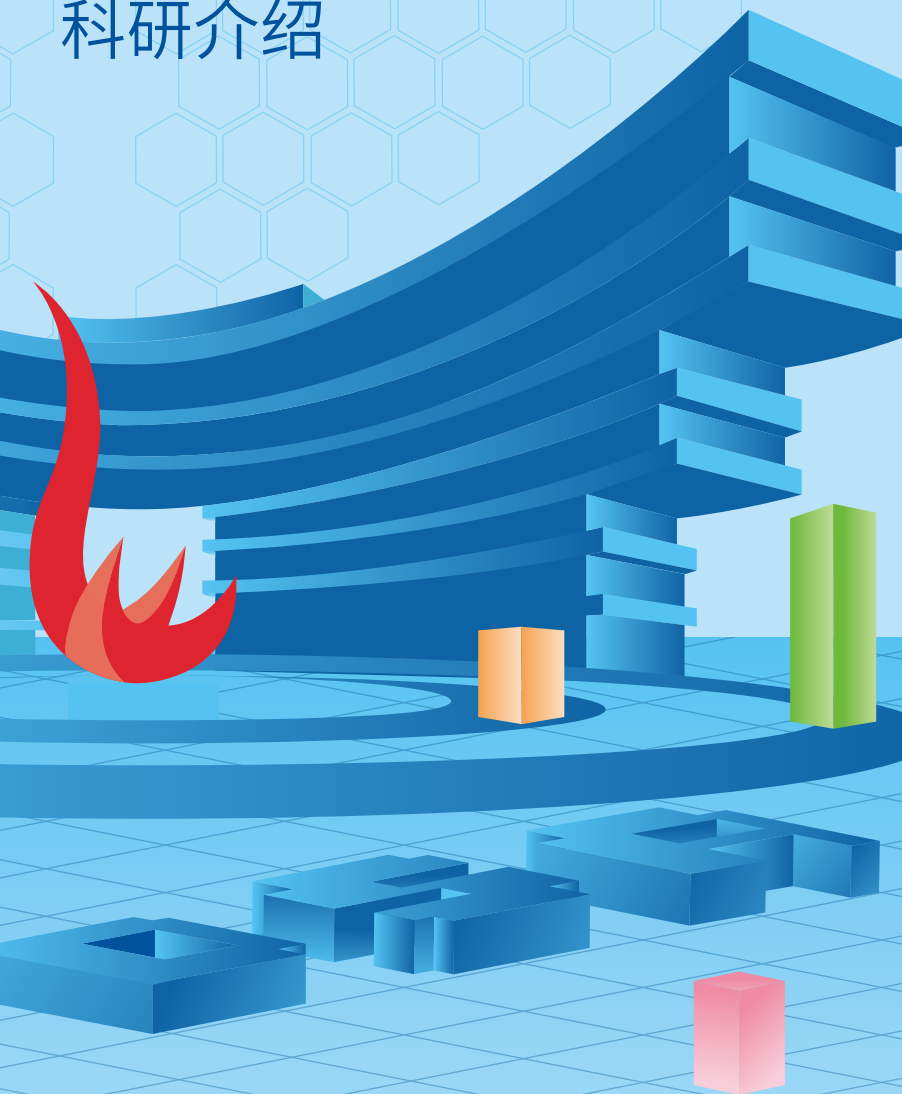




香港科技大学 (广州)
THE HONG KONG
UNIVERSITY OF SCIENCE AND
TECHNOLOGY (GUANGZHOU)

数据科学与分析学域
Data Science and Analytics Thrust
信息枢纽
Information Hub

数据科学与分析学域 科研介绍



DATA SCIENCE
AND
ANALYTICS THRUST

数据科学与分析学域已形成了一支年轻但有着较高水平的学术队伍，包括 10 名正高级老师 22 名副高级老师，其中曾获得：国家高层次人才 6 人，国家高层次青年人才 2 人，ACM Fellow 1 人，IEEE Fellow 4 人，斯坦福大学全球前 2% 顶尖科学家榜单 (2024) 8 人。

32 full-time faculty with, 8 awardees of National Talent Program, 1 ACM fellow, 4 IEEE fellows and 8 World's Top 2% Scientists (2024 Stanford/Elsevier List).



CHU, Xiaowen (Head, IEEE Fellow)

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GPU计算;
分布式机器学习;
云计算;
无线网络;

GPU Computing
Distributed Machine Learning
Cloud Computing
Wireless Networks



WANG, Wei (Asso Head)

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大语言模型;
数据库和人工智能技术整合;
深度学习;
跨学科研究与应用;

Large Language Models
Integration of Database and Artificial Intelligence
Technologies (DB + AI)
Deep Learning
Cross-Disciplinary Research and Applications



NI, Lionel (President, IEEE Fellow)

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大数据; 高性能计算;
互联网技术; 移动计算;
无线网络;

High-Performance Computing, Intelligent Computing
Internet Technologies, Mobile Computing
Wireless Networking



CHEN, Lei (Dean, IEEE&ACM Fellow)

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数据驱动的机器学习;
基于众包的数据处理;
不确定性数据库; 网络信息管理;
多媒体与时间序列系统; 隐私保护

Data-Driven Machine Learning
Crowdsourcing-Based Data Processing
Uncertain and Probabilistic Databases
Web Information Management, Multimedia Systems, Privacy



WU, Kaishun (Asso Vice President, IEEE Fellow)

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物联网; 无线网络; 无线通信;
移动和泛在计算; 普适计算;
大数据; 智能电子医疗;
工业网络;

Internet of Things, Wireless Networks
Wireless Communication, Mobile and Ubiquitous Computing
Pervasive Computing, Big Data
Smart e-Health, Industrial Networks



TSUNG, Fugee

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工业大数据;
数据分析;
统计过程控制和监控;
质量工程和管理;

Industrial Big Data
Data Analytics
Statistical Process Control and Monitoring
Quality Engineering and Management



LUO, Qiong

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数据库系统;
并行和分布式系统;
加速数据密集型应用程序;

Database Systems
Parallel and Distributed Systems
Accelerating Data-Intensive Applications



KIM, Sung Hun

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程序员效率增强;
用于故障检测的软件存储库挖掘;
静态和动态代码分析;
AI 辅助软件开发;
大型语言模型 (LLM) 及其应用;

Programmer Productivity Enhancement
Software Repository Mining for Fault Detection
Static and Dynamic Code Analysis
AI-Assisted Software Development
Large Language Models (LLMs) and Applications



TANG, Nan

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以数据为中心的人工智能;
面向大语言模型高保真推理的检索增强生成
面向数据准备的人工智能;

Data-Centric AI
Retrieval-Augmented Generation for High-fidelity
Reasoning of Large Language Models
AI for Data Preparation



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人工智能: 机器遗忘学习、联邦学习、
编码机器学习、
网络系统: 物联网、共享平台、
网络经济: 数据交易、激励机制设计、

Artificial Intelligence: Federated Learning and
Unlearning, Distributed Coded Machine Learning
Network System: Internet of Things (IoT), Sharing
Platform
Network Economics: Data and Model Trading, Incentive
and Pricing Mechanism



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自然语言处理与软件工程
大型系统的软件性能工程

Software Performance Engineering
Software Logging



DU, Juan

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面向质量提升的以知识为主导的数据科学;
工业数据分析和机器学习;
用于制造应用的系统信息学和控制;

Knowledge-Infused Data Science for Quality Improvement
Industrial Data Analytics and Machine Learning
System Informatics and Control for Manufacturing
Applications



GUO, Zhijiang

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大语言模型;
自然语言处理;
机器学习;

Large Language Models
Natural Language Processing
Machine Learning



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可信机器学习;
安全与隐私;

Trustworthy Machine Learning
Security & Privacy



LI, Jia

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图学习;
数据挖掘;
AI for Science;

Graph Learning
Data Mining
AI4Science



LI, Lei

时空数据、图数据管理
智能交通
分布式数据库

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Spatial Temporal and Graph Data Management
Intelligent Transportation
Distributed Database



LIANG, Yuxuan

时空 (ST) 数据挖掘
图挖掘
计算机视觉

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Spatio-Temporal (ST) Data Mining
Graph Mining
Computer Vision



LU, Shangqi

括数据库查询处理;
高维计算几何;
信息抽取;
机器学习;

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Database Query Processing
Computational Geometry
Information Retrieval
Machine Learning



LUO, Yuyu

智能数据分析;
智能数据库;
数据智能;

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AI for Data Analytics
AI for Database
Data-Centric AI



TANG, Guoming

绿色/可持续计算;
云/边缘计算;
应用人工智能/机器学习;
计算机网络;

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Green/Sustainable Computing
Edge/Cloud Computing
Applied AI/Machine Learning
Computer Networks



TANG, Jing

大数据管理和分析;
社交网络和图形分析;
机器学习;
区块链;

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Big Data Management and Analytics
Social Network and Graph Analysis
Machine Learning
Blockchains



WANG, Wenjia

不确定性量化;
随机模拟;
机器学习;
非参数统计;
计算机实验;

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Uncertainty Quantification
Stochastic Simulation
Machine Learning
Nonparametric Statistics
Computer Experiments



WEI, Jiaheng

鲁棒性机器学习;
大语言模型;

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Robustness Machine Learning
Large Language Model



WEN, Zeyi

机器学习系统;
自动机器学习;
高性能计算;

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Machine Learning Systems
Automatic Machine Learning
High-Performance Computing



XIE, Zeke

生成式AI: 包括扩散模型和大模型的优化、推理、效率。
人工智能基础理论。

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Generative AI: Optimization, Inference and Efficiency of Diffusion Models/Large Models.
AI Theory.



YANG, Weikai

可视分析;
机器学习;

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Visual Analytics
Machine Learning



ZENG, Wei

计算设计;
AR/VR 中的定位可视化;
可视化分析;

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Computational Design
Situating Visualization in AR/VR
Visual Analytics



ZHANG, Yanlin

计算生物学;
AI for Science;
沉浸式可视化;
遗传学与进化;

yanlinzhang@hkust-gz.edu.cn

Computational biology
AI for Science
Immersive data visualization
Genetics and Evolution



ZHANG, Yongqi

关系图中的机器学习;
大语言模型推理;
自动化机器学习;
图科学;

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Machine learning on relational graphs
Reasoning on large language models
Automated machine learning
Graph + Science



ZHONG, Zixin

强化学习;
在线学习;
多臂老虎机研究;

zixinzhong@hkust-gz.edu.cn

Reinforcement Learning
Online Learning
Multi-armed Bandits



ZHU, Lei

计算机视觉; 计算摄影;
图像/视频修复; 计算机图形学;
医学成像; 深度学习;

leizhu@hkust-gz.edu.cn

Computational Photography
Image/Video Restoration
Computer Graphics
Medical Imaging
Deep Learning

论文发表
 Publications

近三年数据科学与分析学域已于顶级国际会议及核心期刊上发表论文超过 300 篇。主要会议有：VLDB, NeurIPS, KDD, ICLR, ICDE, IEEE VIS, ICML, WWW 等，期刊有 Nature Communications, Bioinfomatics 等。

The publications of DSA Thrust in top conferences and journals have reached 300 in the past 3 years, including conferences such as VLDB, NeurIPS, KDD, ICLR, ICDE, IEEE VIS, ICML, WWW, etc., and notable journals like Nature Communications, Bioinformatics, and so on.

SIGCOMM 2022	Best Paper Award 最佳论文奖
VLDB 2022	Best Paper Award 最佳论文奖
DASFAA 2022	Outstanding Contribution Award 杰出贡献奖
SIGKDD 2023	Best Paper Award 最佳论文奖
SIGMOD 2024	Research Highlight Award 研究亮点奖
ACL 2024	Outstanding Paper Award 杰出论文奖
INFOCOM 2025	Test of Time Award 时间检验论文奖
EuroSys 2025	Best Paper Award 最佳论文奖

数据科学与分析学域自 2023 年起成立学生科研差旅专项经费，至今已资助国际差旅 50 余人次。在顶会 / 刊上发表文章的博士生（和科研表现出色的本科生）可申请“校 - 院 - 系”三级差旅经费，预计可支持博士在读期间共 6 次长途差旅和每年 1-2 次短途差旅。

DSA Thrust has established the Student Research Travel Grant since 2023, having already supported over 50 trips. PhD and UG students can apply for the grants offered by the University, Hub, and Thrust. This initiative is expected to facilitate up to 6 long-distance trips during the PhD program and 1-2 short-distance trips annually, promoting academic exchange and research development.

学术科研活动
 DSA Events



2024 International Symposium on Quality of Service (IWQoS)
 服务质量国际学术研讨会



2024 International Conference on Very Large Data Bases (VLDB)
 超大数据库国际会议



2024 Forum on High Performance Machine Learning System
 高性能机器学习系统论坛



2024 DSA&CSE Academic Week
 数据科学与分析学域与港科大计算机科学与工程系联合学术周

广东省通感算交叉融合泛在物联网重点实验室

Guangdong Provincial Key Laboratory of Integrated Communication, Sensing and Computation for Ubiquitous Internet of Things

广州市大数据智能重点实验室

Guangzhou Key Laboratory of Big Data Intelligence

广州市工业信息与智能重点实验室

Industrial Informatics and Intelligence Institute

香港科技大学(广州)—中国移动元宇宙联合创新实验室

HKUST(GZ)-China Mobile Metaverse Joint Innovation Lab

香港科技大学(广州)—安必平医疗数据智能联合实验室

HKUST(GZ)-LBP Medical Data Intelligence Joint Lab

香港科技大学(广州)—腾讯SSV健康普惠创新联合实验室

HKUST(GZ)-Tencent SSV Joint Innovation Lab for Inclusive Health

香港科技大学(广州)—创邻图数据联合实验室

HKUST(GZ)-CreateLink Graph Data Joint Lab

高性能机器学习实验室

High Performance Machine Learning Lab

工业智能与数据分析实验室

Industrial Intelligence and Data Analysis Lab

数据技术与智能治理国际联合创新中心

International Joint Innovation Center for Data and AI Governance

粤港澳科研科创数算协同创新平台

Greater Bay Area Collaborative Innovation Computing Platform for Scientific Research and Innovation

协作交互式可视化和分析实验室

Collaborative Interactive Visualization & Analysis Lab

量化投资金融科技实验室

Knowledge Graph Driven Quantitative Investment Fintech Lab

城市思维智能交通实验室

CityMind Lab

● 项目支持 Funds

数据科学与分析学域依托前沿科研平台，聚焦数据科学与分析的核心问题开展研究。

在校企合作方面，科研经费累计突破**5000万元**：

与中国移动、中国联通、南方电网等**基础设施龙头企业**携手，
联合腾讯、支付宝、华为、阿里巴巴等**科技领军企业**开展技术攻关，
协同之江实验室、鹏城实验室等**国家级科研平台**进行联合研发，
并获得CCF-华为胡杨林基金、CCF-百度松果基金等权威科研资助。

纵向科研受资助总额超**4000万元**：

依托**广东省重点实验室**及5个产学研**联合实验室**，成功承担**国家重点研发计划**、
国家科技重大专项、重点领域专项项目等系列科研课题。

(*截至2025年2月数据)

Data Science and Analytics Thrust thrives based on the advanced research platforms that focus on key challenges in the field. We foster collaboration between industry, academia, and research, having secured **over fifty million (RMB) in competitive funding**. We have established **strategic partnerships with leading infrastructure companies** such as China Mobile, China Unicom, and China Southern Power Grid. Additionally, we collaborate with **tech giants** like Tencent, Alipay, Huawei, and Alibaba to tackle key technological challenges. We also work alongside **national research platforms** like the Zhejiang Laboratory and Pengcheng Laboratory for joint R&D efforts, receiving **prestigious research funding** from sources such as the CCF-Huawei Poplar Fund and the CCF-Baidu Open Fund.

Supported by the Guangdong **Provincial Key Laboratory** and five industry-university-research **joint laboratories**, we have successfully led a series of **national research projects**, including the National Key R&D Program and major national science and technology initiatives.

(*Data as of Feb 2025)



学域官网
DSA Webpage



微信公众号
DSA WeChat



小红书
DSA Xiaohongshu



知乎
DSA Zhihu