SMU
SINGAPORE MANAGEMENT UNIVERSITY
A Different U

Creating Value for Business and Society Through Innovative IT Solutioning.

SCHOOL OF INFORMATION SYSTEMS

Mallika Nitin Gokarn
Bachelor of Science (Information Systems)
2015 Intake

Jaren Lim Jian Quan
Bachelor of Science (Information Systems)
2015 Intake

DEAN'S ADDRESS

Prof. Pang Hwee Hwa
Dean, School of Information Systems

As the IT school of Singapore Management University (SMU), the School of Information Systems (SIS) seeks to create computing knowledge for the digital transformation of business and society. We aim for excellence in fundamental contribution to academic knowledge, as well as in creating technology with practical impact. SIS faculty includes several world-class scholars and rising stars in their respective disciplines. Our research portfolio is well aligned with Singapore's national initiatives like Smart Nation, Cyber-security and Urban Management, and includes a number of well-funded projects in our focus areas.

We also seek to apply our knowledge in training IT professionals to innovate solutions that create value to business and society. SIS offers a suite of exciting education programmes. In particular, the Information Systems major in our Bachelor of Science in Information Systems produces job-ready professionals who are versatile in applying emerging technologies to develop end-to-end solutions. Our Smart-City Management & Technology major is a unique interdisciplinary programme that trains professionals in harmonising social, economic, business, environmental, and technology concerns to develop smart city solutions. I am confident that you will find the programme exciting, as students and employers do.

Smart Nation Immersion

SIS is at the centre of national initiatives like Smart Nation; Analytics for Business, Consumer & Social Insights; Cybersecurity & Data Privacy; Urban Management & Sustainability; Ageing-in-Place; and Financial Services Technology (FinTech). As such, our students gain from our close linkages with national agencies and leading industry players. They are afforded opportunities as interns, researchers and employees.

World-Class Faculty, Large Scale Research

Large R&D grants from industry and government provide many opportunities for our students to create and explore the future.

Future-Ready Career Skills

Our graduates are highly sought after as they have strong technology, business and people skills.

Highly Collaborative Learning Culture

Our nurturing culture of 'learning-to-learn' and peer-to-peer-learning has resulted in a strong sense of family and community within SIS.

Fast-Track Programmes

Fast-track programmes allow undergraduates to pursue an SIS Bachelor's and an integrated Master's degree within a shorter period of time.

OUR STUDENTS ARE WELL TRAINED

$3, 897
Gross average starting salary for SIS graduates*

96%
Employment wIthin 6 months of graduation for SIS graduates

54%
SMU graduates received offers before graduating

51%
With up to 2 to 6 job offers upon graduation

* SIS recorded the highest increase in mean monthly salaries for 2016. Source: Graduate Employment Survey 2016.

Alumni Testimonials

"The school's **strong emphasis on project-based learning** prepared me for my career as a Software Engineer by training me to **tackle challenging problems in a clear-headed and confident manner**. The exploratory pedagogy at SIS has enabled me to thrive in a job that requires that I never stop learning new skills and keeping myself abreast with technological advancements.

Beyond the classroom, the internships, hackathons and competitions that I have participated in, has provided me with the opportunities to interact with leaders in the tech industry, as well as boost my resume significantly. All of these experiences, with the support from mentors and professors, gave me the confidence to work abroad and carve a career in the tech industry."

Geoffrey Goh
Software Engineer II,
Microsoft
Class of 2014

"The SIS journey is challenging but you will realise that **the interdisciplinary curriculum coupled with rigourous coursework would put you in good stead to excel in your career** in the years to come. You will learn to forge ahead with courage and with zeal, to **break what seem to be big problems into bite-sized challenges to work on, just as you would in programming**.

The close-knit community in which we call the SIS family will **mold you into a valuable team player as well as a competent leader** where you will thrive in your endeavours in spite of insurmountable odds. Your tenacity to overcome obstacles will instill in you the never-say-die attitude – to learn from adversity, to inspire others to exceed expectations, and to champion those who are committed to excellence."

Ngoh Jun Dat
Executive, Operations Innovation & Development, YCH Group
Class of 2016

Employer Testimonial

Michelle Chan
Director, Human Resources
DFS Group Limited

"SMU SIS students possess the 3Cs - Confidence, Curiosity and Creativity. They display the ability to analyse a problem and develop workable solutions. SIS students also have a good balance of Technical and Business skills and the ability to apply their knowledge in a new environment."

NURTURING IT PROFESSIONALS TO SHAPE THE FUTURE

BSc (Information Systems): Information Systems

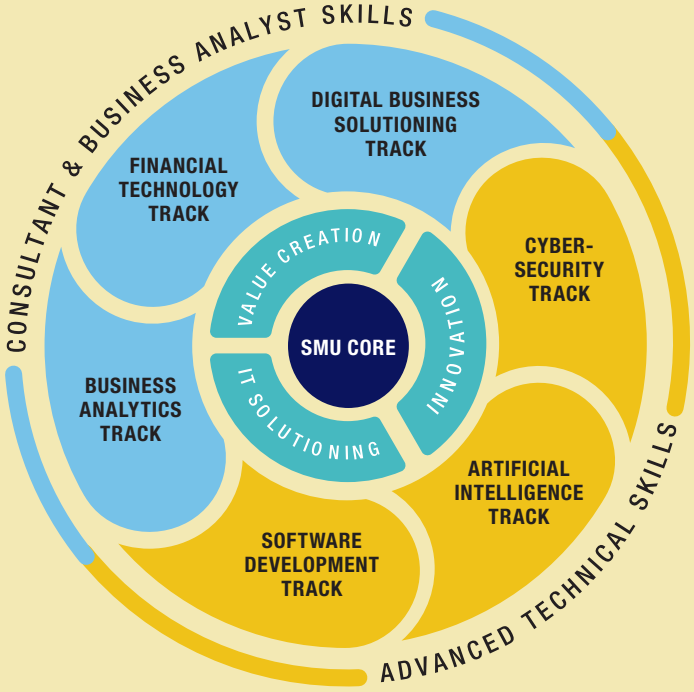
The emergence of new and disruptive computing and information technologies, in tandem with the massive amounts of data spawned as a result of technological systems and applications, has raised the demand for a workforce skilled in Information Systems. Future graduates have to be equipped with new capabilities in order to harness this evolution, thereby developing innovative and value-adding solutions for businesses and society.

The core curriculum for our IS Major focuses on the following:

Value Creation
Identifying opportunities to create value for businesses and society.

Innovation
Innovating by exploiting possibilities offered by emerging technologies and market trends, while synthesising knowledge across domains.

IT Solutioning
Building applications through harnessing computing and information technologies.



Tracks focusing on deepening Consultant & Business Analyst Skills

Business Analytics
This track teaches students the concepts, methods and best practices of data analytics, and enables them to apply that knowledge to develop business strategies and solve real-world issues.

Financial Technology
Covering the foundations of enterprise architecture in banking, as well as functional domain areas, such as retail and corporate banking, digital payments and innovations, and financial markets.

Digital Business Solutioning
This track enables students to ideate, design and develop IT solutions that leverage on digital technology to solve business problems and enhance operational productivity.

Tracks focusing on deepening Advanced Technical Skills

Cybersecurity

Delivering both a solid theory and practical foundation, the courses in this track provide a full-spectrum coverage of various aspects of security fundamentals, including (but not limited to) network security, data security and software security.

Artificial Intelligence

The Artificial Intelligence (AI) track covers an area that aims to augment or substitute human intelligence in solving complex real world decision making problems. The courses in this track will equip students with core concepts and practical know-how to build innovative AI applications that impact business and society.

Software Development

Building on basic computational literacy, students will be equipped with the technical skills to develop applications, from web to mobile that fully leverage and enhance technology effectively.

Curriculum for Academic Year 2017-18 — Information Systems Major

The Information Systems (IS) Major prepares our graduates with capabilities to create value for business and society by developing innovative IT solutions. The programme provides the flexibility for the students to acquire either deep technical skills or a healthy balance of technical and business skills.

Career Ready Tech/ Business Skills

- 1st Major
  - Tracks — 4 Courses
  - IS Electives — 2 Courses
- Quantitative Thinking + Other Electives — 5 Courses

Students can acquire either deep technical skills or a healthy balance of technical and business skills based on their aspirations or career goals.

Information Systems (IS) Foundation Skills

- Information Systems Core* — 10 Courses
- Information Systems Project Experience — 1 Course

Information Systems Core emphasises the critical thinking and technological skills to create IS systems for business solutions.

Future-Ready Skills

- SMU Core (SMU Broad-based Courses) — 14 Courses
- Internship — Minimum 10 Consecutive Weeks
- Community Service — Minimum 80 Hours

SMU Core equips students beyond the depths of the IS discipline; with analytical thinking and problem solving skills, as well as 'soft' people skills.

Total — 36 Courses

*Information Systems Core Courses

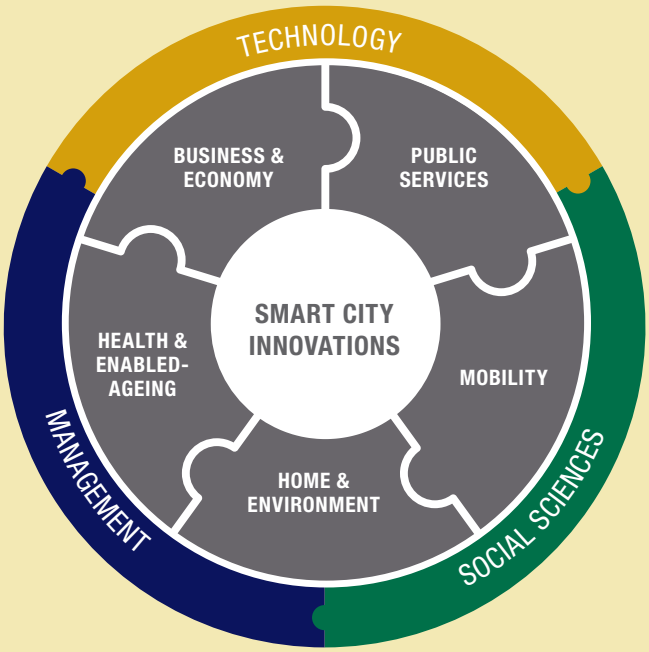
Information Systems & Innovation	Data Management	Enterprise Solution Development
Introduction to Programming	Business Process Analysis & Solutioning	Enterprise Solution Management
Computational Thinking	Interaction Design & Prototyping	Information Systems Project Experience
Web Application Development	Software Project Management	

NURTURING PROFESSIONALS FOR URBAN LIVING IN THE DIGITAL FUTURE

BSc (Information Systems): Smart-City Management & Technology

Smart cities are emerging across the world, requiring not just technology, but the ability to synthesise solutions considering multiple dimensions across social, economic, business and environment. A smart city, empowered by technology, connects people, businesses and government to make itself more liveable and sustainable. And in order to succeed, it is essential for the next generation of professionals to be equipped with multidisciplinary skills.

The Smart-City Management & Technology (SMT) Major is a unique interdisciplinary programme aimed at developing skills in integrating technology, social science and management to address challenges and reap opportunities arising from the transformation of global and national trends towards smart cities. The curriculum equips students with data analytics and technological skills, as well as the ability to provide evidence-based reasoning to policy, economic and social implications of IT innovations.



Students will also gain knowledge depth through career-ready specialisations in 5 key smart city applications domains:

BUSINESS & ECONOMY	HEALTH & ENABLED AGEING	HOME & ENVIRONMENT	MOBILITY	PUBLIC SERVICES
Financial Technology	Ageing-in-Place With Technology	Data Driven Urban Planning	Dynamic Crowd Management	Public Safety
Sharing Economy	Collaborative Care System	Intelligent Sustainable Solutions	Urban & Transportation Solutions	Urban Community & Liveability
Smart Retail	Preventive Healthcare	Smart Building	Sustainable Logistics	Social Sensing

Curriculum for Academic Year 2017-18 — Smart-City Management & Technology Major

Career Ready Specialisations

1st Major

- **Specialisations** In Technology/Social Sciences/ Management disciplines — 4 Courses
- **IS Electives** — 5 Courses

Quantitative Thinking — 2 Courses

Students are strongly encouraged to specialise in a selected domain in Technology, Social Sciences or Management.

Smart City Core Skills

- **Smart City Interdisciplinary Core*** — 10 Courses
- **Smart City Project Experience** — 1 Course

Smart-City Core builds analytical skills, interdisciplinary critical thinking and technological skills to create innovative smart city solutions.

Future-Ready Skills

- **SMU Core (SMU Broad-based Courses)** — 14 Courses
- **Smart City Internship** — Minimum 10 Consecutive Weeks
- **Community Service** — Minimum 80 Hours

SMU Core develops students holistically; equips students with analytical thinking, as well as problem solving and soft skills.

Total — 36 Courses

*Smart City Interdisciplinary Core Courses

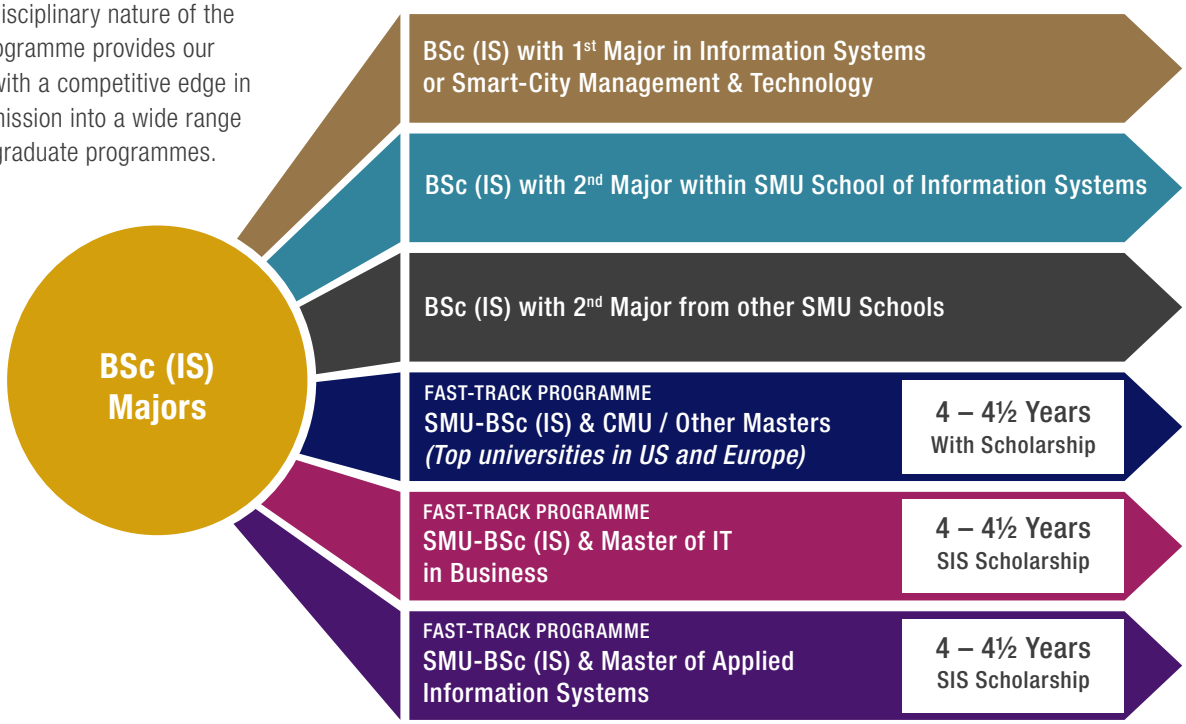
Analytics Foundation (Technology)	Data Management (Technology)	Programming For Smart City Solutions (Technology, Social Sciences)
Security Management & Data Privacy (Technology, Management)	Analytics Applications For Smart Living (Technology, Social Sciences)	Introduction to Public Policy (Social Sciences, Management)
Sustainable Cities (Social Sciences, Management)	Information Systems & Innovation in Smart Cities (Technology, Social Sciences, Management)	Geospatial Analytics for City Planning (Technology, Social Sciences, Management)
Smart City Systems & Management (Technology, Social Sciences, Management)	Smart City Project Experience (Technology, Social Sciences, Management)	

Technology · Social Sciences · Management

VERSATILE PATHWAYS

A Stepping Stone to Postgraduate Programmes

The cross disciplinary nature of the BSc (IS) programme provides our graduates with a competitive edge in gaining admission into a wide range of top postgraduate programmes.



Being Engaged in Learning

The vibrant student life at SMU offers a myriad of opportunites for students to develop both leadership and team player qualities. Students can accumulate real-world experiences from being actively involved in student activities; entrepreneurial pursuits; taking on prestigious competitions, and more.

SMU-X
Stay ahead of innovative pedagogy by pushing the boundaries and venturing into new ways of bridging theory and practice.

Overseas Study Mission
Visit top companies around the world and network with industry leaders for future career opportunities.

Locally & Overseas Internships
Broaden your perspectives and apply your skills and knowledge to real-world business operations.

Project & Research Experience
Engage with industry leaders and gain valuable hands-on experiences to tackle real-world challenges.

Community Service
Gain exposure to diverse social, political, and economic environments as you do your part to advance a humanitarian cause.

SCHOLARSHIPS

SMU offers an innovative and inclusive package of scholarships, study awards, bursaries, and generous loan schemes that will provide candidates the road to financial freedom.

For Prospective Students

ASEAN Undergraduate Scholarship	Bangkok Bank Scholarship	De Suantio Scholarship
Gary Kunis Scholarship in Entrepreneurship and Technopreneurship	Lee Kong Chian Scholars' Programme	Li Ka Shing Endowed Scholarship
Lim Siah Mong Scholarship	LKY-STEP Award	Ng Kai Wa Scholarship
Science & Technology Undergraduate Scholarship	Sing Lun Scholarship	SMU Global Impact Scholarship Award
SMU Merit Scholarship Programme	SMU Steven Miller Scholarship	SMU-School of Information Systems Scholarship
Tahir Scholarship	Tanoto Scholarship	University Study Award

Fast-track Programmes

SIS students can pursue a Bachelor's and Masters' degree concurrently through:

SMU-Carnegie Mellon Masters (Pittsburgh, USA) under the National Infocomm Scholarship offered by IMDA	SMU BSc (IS) & Master of IT in Business (e.g. Analytics Track, Financial Services Analytics Track)	SMU BSc (IS) & Master of Applied Information Systems

For Current Students

ABS Study Award	Chan Chong Beng Entrepreneurship Scholarship	Decision Science Agency Scholarship
DFS Scholarship	Fung Scholarship	Gary Kunis Scholarship in Entrepreneurship and Technopreneurship
Goh Foundation Endowed Scholarship	KKH Scholarship	Lee Foundation Student Life Scholarship
Mochtar Riady Scholarship	Ng Kai Wa Scholarship	NYC System Engineering Study Award
PayPal FinTech Scholarship	SAS Institute Bachelor of Science Scholarship	SICC International Exchange Scholarship
Sing Lun Scholarship	SMU Alumni Scholarship	SMU Steven Miller Scholarship
SMU-School of Information Systems Scholarship	Temasek Foundation International Leadership Enrichment and Regional Networking Programme @ Singapore Management University	Wilmar Scholarship

Please note that the list is not exhaustive. For more details, scan the QR code or visit: **www.smu.edu.sg/about/financial/scholarships**

LEADING THE WAY IN RESEARCH

LARC Living Analytics Research Centre

Partner with Carnegie Mellon University (CMU) and funded by the National Research Foundation (NRF).

Prof Lim Ee Peng
Professor of Information Systems
Director, Living Analytics Research Centre

OBJECTIVE

To create a personalised participatory Smart Nation where social and urban services are customised to individual needs and where individuals can come together to solve the challenges too.

PERSONALISED SMART NATION
Social and urban services are customised to individual needs and preferences

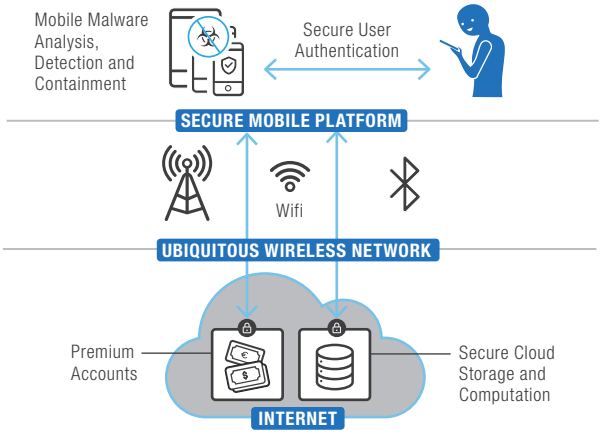
PARTICIPATORY SMART NATION
Individuals voluntarily come together to solve both social and urban challenges

SECURE MOBILE CENTRE

Funded by the National Research Foundation (NRF).

OBJECTIVE

To create technologies and solutions to secure different layers of mobile computing systems via the implementation of a holistic, end-to-end approach mobile computing security.



Prof Robert Deng
Dean, Postgraduate Research Programmes
AXA Chair Professor of Cybersecurity
Director, Secure Mobile Centre

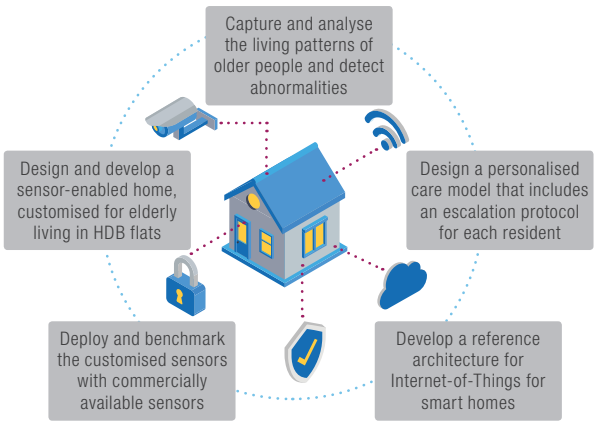
- 1st SMU Faculty to be conferred fellowship by Institute of Electrical and Electronics Engineers (IEEE)
- 1st named AXA Chair Professorship in Cybersecurity and one of only two AXA Chairs to be conferred this honour

SMU-TCS iCity Lab

Partner with Tata Consultancy Services (TCS) and funded by the government and industry.

OBJECTIVE

To create a citizen-centric community care platform that is inclusive and intelligent via the integration of technologies with social behavioural perspectives.



Assoc Prof Tan Hwee Pink
Associate Professor of Information Systems (Practice)
Academic Director, SMU-TCS iCity Lab

Awarded "The Most Outstanding Contribution to Social Behavioural Research to Enable Sustainable Ageing in Place in the World in 2016" by The Globals, a worldwide publisher specialising in aged care provision.

In Highly Relevant Areas

We organise our academic research and our applied project work into the five core research competencies and three integrative research domains shown below. Many of our faculty do work that spans several of the sub-areas within each of these main areas.

Core Research Competencies

DATA SCIENCE & ENGINEERING

- Knowledge Discovery & Data Mining
- Machine Learning & Deep Learning
- Visual Computing & Multimedia Analytics
- Spatial & Context-Aware Data Management
- Recommender Systems & Preference Analysis
- Natural Language Processing & Text Mining
- Crowdsourcing and Human Computation

CYBERSECURITY

- Data Security & Privacy
- Mobile Platform & Application Security
- IoT Security & Privacy
- Computer & Software Security
- Cloud Computing Security
- Human Behaviour-Based Security
- Security Policy & Management

INFORMATION SYSTEMS & MANAGEMENT

- Economics of Information Systems & Technology
- Social Media Marketing & Digital Strategies
- Platforms, Networks and Markets
- Cloud Computing & Information Security Management
- IT & Supply Chain Management
- Financial Information Systems & Disruptive Technology
- Digital Innovation Management & Entrepreneurship

INTELLIGENT SYSTEMS & OPTIMIZATION

- Autonomous Agents & Multiagent Systems
- Behavioral Modeling & Reinforcement Learning
- Game Theory & Mechanism Design
- Heuristic Search & Optimization
- Planning & Scheduling
- Operations Analytics
- Simulation & Decision Support in Trans-portation & Logistics

SOFTWARE & CYBER-PHYSICAL SYSTEMS

- Mobile & Wearable Systems & Testbeds
- Cyber-Physical & IoT Systems
- Interactive & Wearable Computing Interfaces
- Physical Sensing & Analytics
- Software Mining, Testing & Analysis
- Empirical Software Engineering
- Edge & Cloud-Assisted Computing

Integrative Research Domains

LEARNING & PEDAGOGY

- Learning & Curriculum Analytics
- Practice & Game-Based Learning
- Blended Learning
- Personalized Learning

URBAN SYSTEMS & OPERATIONS

- Crowd Management
- Urban Mobility & Smart Commuting
- Urban Logistics & Sustainability
- Maritime Traffic Management

ACTIVE CITIZENRY & COMMUNITIES

- Community Crowdsourcing & Crowdtasking
- Job & Skill Intelligence
- Lifestyle & Wellness Intelligence
- Urban & Social Analytics

SAFETY & SECURITY

- Optimization of Security & Civil Resource Deployment
- Security of Digital Platforms & Devices
- Privacy-Preserving Data Sharing & Analytics
- Cybersecurity Regulations & Policies

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