

**ASHLEY WAE JAN KHOR**

1759 Waterfront Place, Apt 414, Pittsburgh, PA 15222 ♦ (412) 954-7576 ♦ ashley.w.khor@gmail.com

Ashley is an experienced technologist with a passion for digital transformation, evolution of smart cities and the responsible and ethical implementation of big tech and AI for the public sector. She holds over a decade of consulting experience as a digital technologist and management scientist. Ashley spearheaded a new data science practice for Accenture’s Health and Public Service group in Singapore, serving as its Applied Intelligence Lead to build and lead a team of data scientists and consultants to pilot, implement and institutionalize advanced analytics and machine learning projects for government agencies across a variety of sectors including law enforcement, health, social services and tourism. She also served as the Centre Director for Accenture’s first global innovation centre for Situational Awareness, a cross-functional initiative bringing together AI-driven analytics and intelligent technologies to connect the dots between data, ecosystems, and citizens. She excels in identifying client challenges, leveraging data and digital technologies to design transformative solutions and serving as the bridge between diverse stakeholders including executives, technical and business teams. Ashley is currently completing her PhD in Public Policy at the University of Pittsburgh’s Graduate School of Public and International Affairs where her current research is focused on public opinion and societal acceptance of public sector use of big tech and artificial intelligence. She is a U.S. citizen.

**PROFESSIONAL EXPERIENCE**

**RAND** **Pittsburgh**  
*Summer Associate* 2022

As a 2022 Summer Associate, Ashley was responsible for leading an independent study to evaluate international research and innovation collaboration as a means for the U.S. to mitigate China's military science and technological advancement. This was conducted through the lens of 4 different collaborative frameworks: national, regional, academic and corporate. Her final research, "U.S.-China Technology Competition and the Rising Importance of International Innovation Collaboration" was presented to over 50 RAND employees.

**Accenture Health and Public Service** **Singapore**  
*Applied Intelligence Lead and Situational Awareness Innovation Centre Director* 2011-2021

AI advisor to government agencies and healthcare organisations to define the AI roadmap, and institutionalise solutions across people, processes and technology. Led a multidisciplinary team of data scientists, decision scientists and engineers to research, experiment, test, refine and deploy AI solutions into the live production environment. As AI architect, responsible for end-to-end solution design and operationalisation, including feature design, model selection, training and refinement, integration into the overall system architecture, business process redesign, user training and communications and model monitoring/ maintenance approach. As practice lead, responsible for recruitment, employee engagement and capability development. And as centre director, responsible for the overall business strategy and research and development of innovation projects. Highlights from over a decade of consulting experience include:

- Building a data science practice from the grounds up
- Pioneering first local implementations of data science applications including fraud, AML and people analytics
- Setting up a digital command center for a forestry and agriculture MNC in under 5 months
- Spearheading the first deployment of on-premise big data and analytics hub
- Expanding the applied intelligence portfolio to new public service domains including immigration, anti-money laundering, narcotics policing, tourism and healthcare
- Designing and setting up Accenture’s first Innovation Center for Situational Awareness

**Selected Projects (not exhaustive)**

*Intelligent Case Management – Law Enforcement Agency* 2018 – 2019

- Defined the AI roadmap with the goal of leveraging automation and AI to improve the speed and effectiveness of enforcement and investigation activities, uncover “unknown unknowns” and enable data-driven preventative education initiatives through better understanding of criminal behaviours and hot spots.

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- Designed and led the build and implementation of an integrated natural language processing and network analytics solution for a policing case management system to extract and link entities and relationships across case, statements and forensic data for over 20,000 cases per year. The solution involved custom Python informational retrieval algorithms leveraging a combination of named entity recognition and regular expression (e.g. person and location names, phone numbers, licence plate numbers) as well as more complex models using dependency parsing, classification and deep learning models to extract relationships between entities (e.g. owner of the phone number, relationship of the person to the offender) and contextual information (e.g. modus operandi, reason for committing crime). Entities and relationships were integrated into the investigation workflow through custom network visualisations built into the Pega case management system as well as an intelligence database via IBM i2.
- The project was Accenture’s first integrated AI solution for policing globally. Presented the solution at the agency’s annual workplan seminar in 2018 and 2019, where the project was also featured by the Minister of Home Affairs as a key initiative.
- Developed a policy planning solution to analyse the impact of policing operations on the crime situation in the region, by augmenting the existing catch-and-release model with population stratification to create a more refined estimate, and multivariate modelling for driver analysis. Advising the organisation on further data science solutions to leverage the enriched data for risk profiling, behavioural analytics and network analysis.

*AI Expert Advisor for Anti-Money Laundering – Financial Regulator*

2018

- Designed and led the prototyping of an augmented intelligence solution to predict the likelihood that market manipulation has occurred using trade analysis, past cases and legal documents (expert reports), to enable triaging of cases for investigation. Natural language processing and deep learning was used to model rogue trading behavior combining traits identified by human experts and unusual patterns and anomalies detected by machine learning.
- The natural language processing model was able to classify each sentence to identify “salient sentences” (sentences which contribute towards the final decision) with accuracy of over 80%. Co-created features by domain knowledge and classification model to automate the mapping from salient sentences to the created features. Derived corpus of important sentences mapped to features indicating the suspicious trading behavior, which were used to train a predictive classification model using trading counter data to predict likelihood of conviction (85% accuracy on historical data).
- Project was featured in the media as a key initiative in its enforcement transformation.

*Analytics and Data Hub – Tourism Government Agency*

2017-2018

- As Advanced Analytics Lead, led a team of 4 data scientists to develop and deploy advanced analytics and machine learning models for end-to-end analytics across data, dashboards and technical architecture (Microsoft R, SAP HANA, QlikSense).
- Conducted analytics visioning workshop with over 40 Directors across the business to refresh the analytics strategic vision, identify new use cases and prioritise for action.
- Developed “Inspire” series consisting of analytics articles, demos and lunch and learn sessions to help the agency build analytics capability and inculcate a data driven mindset.
- Designed and oversaw the development of:
  - Forecasting models to forecast consumer demand and expenditure, resulting in 30-60% improvements in forecast accuracy over existing forecasting methods
  - Use of supervised machine learning techniques to classify survey respondents and investigate suspected data issues to support the Board in decision making around the use of the survey results
  - Text analytics engine to analyse trends across news articles

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- Meshing analytics for geospatial (telco) data and survey results to integrate different sources of customer data
- Prediction model to predict late finance payments and drivers for early intervention
- Marketing analytics – marketing mix modelling and attribution modelling
- Solutions were presented up to the Board of Directors. Project awards include:
  - **2018 GovInsider Innovation Award** awarded by the Singapore government for best use of data
  - **2019 IDC Smart City Asia-Pacific Winner** for economic development, tourism, arts, libraries, culture, open spaces

*Mobile and AI First Strategy – Labour Agency*

2017

- As Project Manager and Digital Architect, led a cross-functional team of 4 to develop a mobile and AI first strategy and prototype to reimagine the customer experience for a labour agency.
- The prototype incorporated machine learning, natural language processing and robotic process automation to deliver personalised services via smart assistant, 24/7 advisory, and targeted recommendations across the organisation's 3 strategic thrusts.
- Presented the recommendations and prototype to the agency's steering board. The project was commended for its innovativeness and forward looking by the labour chief.

*Fraud and Risk Profiling Analytics – Government Agency*

2016

- As Analytics Lead: Worked with one data scientist to leverage machine learning techniques using R to predict fraud and at risk transactions, individuals and organisations
- Established the fraud analytics record with about 230 variables from 14 different source tables, including more than 50 transformed variables
- Developed incorporating unsupervised and semisupervised algorithms and rare events classification
- After initial validation of over 700 cases, 30% of previously approved transactions were subsequently rejected. POC received positive feedback from the agency's directors and the models were approved for ground testing

*Intelligent Operations Centre & Connected Worker Initiative – Agriculture MNC*

2015

- As Business Enablement Lead: Designed the digital blueprint for an intelligent operations centre that collects and integrates data from multiple sources including systems, mobile applications and drones to deliver actionable strategic, operational and tactical insights via a cloud platform for both the fibre and oil palm business
- Worked with C-Suite and business unit heads to define 100 critical KPIs to track and measure operational performance. Designed the dashboard based on an exception based reporting approach to enable monitoring and tracking of key metrics across 5 dimensions (sector, supervisor, time, location and root cause driver drill down) leveraging features such traffic light coding, over 20 automated alerts and geospatial heatmapping
- Managed a team of 10 Qlik developers and data engineers to build and deploy 10 decision hubs for exception based reporting via dynamic dashboards in under 4 months
- Set up the intelligent operations centre in HQ which is today being used to monitor operations using the dashboards on a daily basis and is currently being rolled out to the remaining 30 sectors. Developed a persona-based user guide to guide C-suite, managers and supervisors to leverage the dashboard to enable evidence-based decision making relevant for their role. Designed value assurance monitoring and reporting mechanisms to ensure business benefit and realisation for the digital transformation

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*Digital Innovation Partnership – National Gallery Singapore*

2014-2016

- As Analytics Advisor: Provided analytics advisory to C-suite and the Analytics and Innovation teams to help the Gallery leverage analytics and data driven insights drive visitorship and next gen visitor experience

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**EDUCATION**

**University of Pittsburgh, Graduate School of Public and International Affairs**

Pittsburgh, PA

PhD in Public Policy. GRE: 169V, 166Q, 5.0W. GPA 4.0

Expected Aug 2024

**University of Sydney**

Sydney, Australia

Master of Economics (First Class Honors), Majors in Economics and Econometrics

Dec 2010

- Discipline of Operations Management and Econometrics prize in Econometric Applications
- Discipline of Operations Management and Econometrics prize in Principles of Econometrics

**University of Sydney**

Sydney, Australia

Bachelor of Commerce / Bachelor of Laws, Extended Major in Economics

Dec 2008

- Mary Beddie Scholarship in Economics for Women Students
- First Place in International Macroeconomics
- First Place in Law and Economics
- Third Place in Economics of Competition and Strategy

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**CERTIFICATIONS**

- Agile Project Management, Accenture, 2017
- Bayesian Networks for Research, Analytics and Reasoning, Bayesia, 2017
- Strengths Coach, Gallup, 2016

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**RESEARCH, PUBLICATIONS AND CONFERENCES**

**Association for Public Policy Analysis and Management Fall Conference**

Atlanta, Nov 2023

*Presenter*, “Your Data or Your Life: What Drives Citizens to Accept or Reject Public Sector Use of AI”

**International Political Science Association World Congress**

Buenos Aires, Argentina, July 2023

*Presenter*, “The Impact of Cultural Factors on Public Opinion of Public Sector Applications and Governance of Artificial Intelligence”

**6th International Conference on Public Policy**

Toronto, Ontario, Canada, June 2023

*Presenter*, “Citizen Preferences for Artificial Intelligence Governance Measures in the Public Sector”

**80th Annual Midwest Political Science Association (MPSA) conference**

Chicago, IL, May 2023

*Presenter*, “Social Media Research and Public Opinion on Government Use of Big Tech and Artificial Intelligence”

**Association for Public Policy Analysis and Management Fall Conference**

Washington D.C., Nov 2022

*Presenter*, “Where Should We Draw the Line between Safety and Privacy? Using Social Media Research to Inform Social Acceptance of Mass Surveillance Technologies”

**University of Pittsburgh**

Pittsburgh, PA

*Graduate Research Assistant*

2020 – Present

- Together with the Center for Social and Urban Research, designed 2021 Quality of Life survey for Pittsburgh and assessment of the impact of COVID-19 on wellbeing
- Together with the Ridgway Center and the FBI, conducted open source research on COVID-19-related fraud and criminal exploitation of the pandemic

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- Research study on the effectiveness of digital contact tracing on containing the spread of COVID-19
- Qualitative case study on citizen perceptions and acceptance of the use of digital surveillance
- Public policy memo on realizing the benefits and reducing the social costs of predictive hot-spot policing

**Accenture**

*Centre Director for the Situational Awareness Innovation Centre*

Singapore

2017-2020

- **Co-Author:** Ng, W. W. & Khor, A. (2019), *AI: The Journey to 99%: Breaking through the Accuracy Threshold*
- **Moderator:** “Better Living through Data – Creating a Culture of Health”, General Assembly and SGInnovate (Singapore), 2 Sep 2019
- **Presenter:** “Finding the Smoking Gun with Speed to Insight” (with Cat Holmes), SAS Global Forum (Dallas, TX), Apr 28 – May 1 2019
- **Moderator:** “Situational Awareness, Internet of Things and the Future of Force Contact”, Transforming the Citizen Experience, Accenture Public Safety Summit (London, UK), Mar 26-27 2019
- **Presenter:** “AI in Singapore Health and Public Sector”, Finnish Business Council AI Monday (Singapore), Mar 4 2019
- **Presenter:** “People Analytics”, Talent Mobility and People Analytics in Implementation, Forum Human Capital Indonesia (Jakarta, Indonesia), Aug 30-31 2018
- **Moderator:** “The Impact of AI on Achieving the SDGs”, General Assembly and SGInnovate (Singapore), Aug 6 2018

**PROFESSIONAL AFFILIATIONS**

- American Political Science Association (1 year)
- Association for Public Policy Analysis and Management (2 years)
- International Political Science Association (1 year)
- International Public Policy Association (1 year)
- Mechanism Design for Social Good (2 years)
- Midwest Political Science Association (1 year)
- Singapore Computer Society (5 years)

**OTHER PROFESSIONAL AND VOLUNTEER ROLES**

<b>Angel Investor, she1K (Singapore)</b>	2019 – 2022
<b>Judge, DBS-NUS Social Venture Challenge Asia (Singapore)</b>	2018
<b>Facilitator, TEDxPickeringStreet (Singapore)</b>	Aug 2018
<b>Volunteer, Samos Volunteers, Samos Refugee Camp (Greece)</b>	Jun 2017