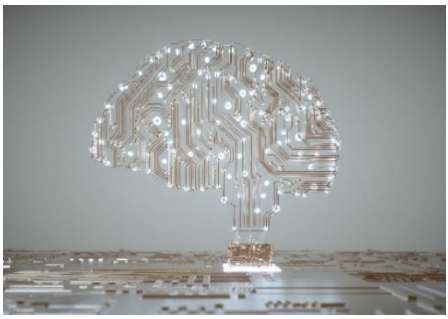
Anonymising Data using k-Anonymity



Course Objectives

Data anonymisation is an important approach in data governance and management; it enables organisations to protect personal information while sharing, processing, and making use of such information. However, anonymisation still carries the risk of re-identification. A well-known approach which allows organisations to quantify the risk of re-identification utilises k-anonymity.

This hands-on, interactive course provides an in-depth exploration of k-Anonymity. An anonymisation process can use various techniques to achieve the k-threshold; several of these will be explored in theory and exercises in terms of how they contribute towards k-Anonymity. The course introduces the theoretical foundations, and it complements the understanding with exercises and discussions. It also shows how to apply the 5-step process promoted by Singapore's Personal Data Protection Commission (PDPC) in its latest Anonymisation Guide (published early 2022). The exercises will use the Academy's own learning tool.

The course will also cover legal aspects of anonymisation as far as relevant for the understanding and practical use of k-Anonymity. It will further address risk considerations for assessing the sufficiency of anonymisation. Though more technical in nature, this course is suitable for managers and directors to get a better understanding of anonymisation, and how to address and manage re-identification and other threats as part of their risk management responsibilities.

Who should attend?

- Privacy Engineers / Technical staff / Developers / Data Analysts / Project Managers / Data Architects
- Data Protection Officers (DPOs) / Compliance Professionals / In-house counsels
- Executives and staff involved in the use, management, and protection of an organisation's information and data

Course Details

Course Code: CS405

Course Title: Anonymising Data using k-Anonymity

Course Duration: 1 day (approximately 7 contact hours)

Venue: Drew & Napier LLC
10 Collyer Quay, 10th Floor Ocean Financial Centre
Singapore 049315

Course Fee: S$500.00 (excluding GST)

To view available dates and register for this course, please click here. You may also register for this course and view all available courses on our course schedule page (www.drewnapier.com/Academy/Course-Schedule).

Course Outline

- **Overview of anonymisation (Know the rules and your data)**
  - Data anonymisation:
    - Anonymity and data anonymisation
    - Data attributes
    - Keep data secret versus keep identity secret versus protect new insights
  - Basic legal aspects under Personal Data Protection Act (PDPA):
    - Advisory Guidelines and PDPC Anonymisation Guide
    - Use cases and scenarios involving anonymisation
  - Identification, Identifiability, and sensitivity of data:
    - Anonymisation scale
    - PDPC Guide's release models
- **Basic anonymisation (Know the process, techniques, and relationships)**
  - PDPC's 5 step process
  - Key techniques and exercises
  - Utility versus information loss: Basics of information content and information entropy
- **Details of k-anonymity with exercises (Know k-anonymity measure)**
  - Origin and intent of k-anonymity
  - Concept of equivalence class
  - K-anonymity: Protection against re-identification and limitations
  - Exercises on small and complex data sets

Course Leader & Facilitator

Albert Pichlmaier is Senior Learning Technology Designer with Drew Academy and concurrently Senior Cybersecurity & Privacy Engineer with Drew & Napier's Data Protection, Privacy & Cybersecurity practice. He holds a degree in Computer Science from a German tertiary institution. He is a Certified Information Systems Security Professional (CISSP), a Certified Data Privacy Solutions Engineer (CDPSE), a holder of the Singapore WSQ Advanced Certificate in Learning and Performance (ACLP), and a certified Blockchain Developer. Albert is credited as an inventor of two patents granted in Germany and other countries. His technical expertise provides Drew & Napier and our clients with a wide-ranging perspective on matters involving Cybersecurity, Cryptography, Quantum Computing, Artificial Intelligence / Machine Learning, Blockchain Development, Data Analytics, Big Data, and Data Visualisation, amongst others. For the courses and webinars under the Drew Academy, he draws from this pool of knowledge and experience to explain technical content to non-technical audiences, develop proof-of-concept and learning tools, and engage with experts on finer details.

Albert was formerly an Executive Manager with the Personal Data Protection Commission (PDPC), where he was involved in technology assessments for data breach investigations, research into trending / disruptive technologies and advising on technical aspects of various PDPC guidelines and publications (amongst other matters). Prior to his role with the PDPC, Albert worked in several technology-related roles with Infocomm Development Authority of Singapore (IDA) and various companies in Germany, Spain and Singapore including as Vice President of research and development, lead testware engineer and software engineer. He was also a technopreneur, having set up a company to provide testing tools for embedded systems and smartcard applications.