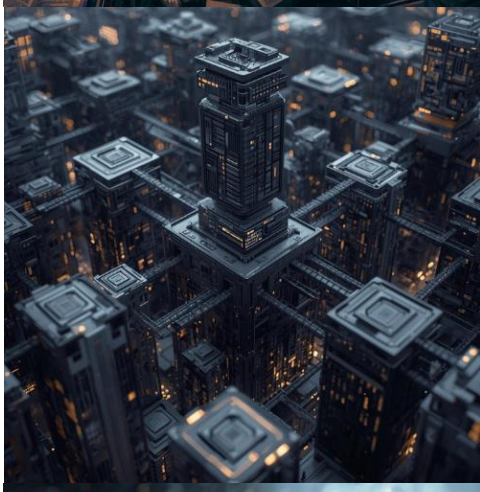
LLM Under the Hood



Course Objectives

LLM (Large Language Model) has evolved into a vogue (and by implication vaguer) term, with an ever-growing portfolio of tools, applications, parameters, architectures, and AI / ML approaches. It's meaning has extended so far and wide that sometimes LLM seems to be the only type of AI in the market, or useful to organisations. Such proliferation makes it rather challenging, especially for non-specialists, to understand the differences between all the "LLMs" out there and what each "LLM" can do well or not. This course will help the audience to separate marketing talk, captivating headlines, and typical glossing (so-called "typicality bias") of the technology from more dependable facts. It provides critical clarity for decision making around this technology in terms of procuring, governing, deploying, and relying on LLMs directly (e.g. Natural Language Processing, NLP), with support (e.g. via Retrieval Augmented Generation, RAG), or via extensions (e.g. chatbots and Agentic AI). This course also provides the foundation to assess and better manage typical risks, like vendor lock-in.

By looking under the hood just enough, the audience will be on a more practical and successful trajectory for many AI projects, because as even Gemini AI itself summarised it in a recent real search result: *While sometimes simplified as just "predicting the next word," in practice,...*

This course extends our *Deep Learning Essentials* course, and complements the *Agentic AI Primer* course.

Who should attend?

- C-Suite and Board members, DPOs, and Compliance Professionals
- Privacy / Software Engineers, Technical Staff, Developers, Data Analysts, Data Architects, and Project / Risk Managers
- IT Practitioners and engineers tasked to deploy LLM based technologies
- Executives, Managers, and Staff involved in the management, collection, use or other processing of personal data

Course Details

Course Code:	AI102
Title:	LLM Under the Hood
Duration:	½ day
Mode of Training:	In-person
Venue:	Drew & Napier LLC 10 Collyer Quay, 10th Floor, Ocean Financial Centre Singapore 049315
Course Fee:	S$300.00 (excluding GST)

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

Course Outline

- **Key terms for Natural Language Processing (NLP)**
  - Natural Language Understanding (NLU), Natural Language Generation (NLG)
  - Artificial Intelligence (AI), Machine Learning (ML)
  - Traditional NLP approaches, LLM for language

- **Basic Transformer and LLM architectures**
  - Encoder
  - Decoder
  - Encoder-Decoder
  - Autoregressive
  - Probabilistic / deterministic versus GenAI
  - Embedding, Attention, 'next word prediction'
  - LLM versus ChatBot versus Agentic

- **Enhancements for LLMS**
  - Chain-of-Thought and ReAct
  - Retrieval Augmented Generation (RAG)
  - Fine-Tuning
  - Token tuning
  - Reasoning Models

Course 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 Certified Artificial Intelligence Governance Professional (AIGP), 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 covers a wide-ranging area of matters involving Cybersecurity, Privacy Engineering, Cryptography, Quantum Computing, Artificial Intelligence / Machine Learning, Blockchain Development, Data Analytics, Big Data, and Data Visualisation. 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 is officially recognised on the Lexology Index (previously Who's Who Legal) 2025: Recommended (Data - Data Experts, Southeast Asia - Data Experts) and Highly Recommended (Client Choice - Data - Data Experts).

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 technology-related organisations in the private and public sector in Germany, Spain, and Singapore. He was also a technopreneur, having set up a company to provide testing tools for embedded systems and smartcard applications.