

# Philip Qing An Khor

DATA SCIENTIST

Penang, Malaysia

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## Summary

Data scientist with a background in Economics and research experience in applied microeconometrics. Prior experience with regulatory modelling in the financial sector, building deep learning models, driving documentation and advocacy initiatives as well as developing and delivering enterprise data science training courses in statistics and programming.

## Work Experience

### Visiting Data Scientist

George Town, Penang

PENANG INSTITUTE

Jan 2024 - Present

- Developing dashboards covering local socioeconomic statistics and maintaining data pipelines
- Streamlined data pipelines to reduce the time taken for updates
- Redesign dashboards to improve clarity of data visualisations

### Statistician, Socioeconomics and Statistics Programme

George Town, Penang

PENANG INSTITUTE

Jan - Dec 2023

- In addition to the above, support the transition of Penang Monthly's statistics brief towards a more visual format with timely reviews and internal training
- Contributing to Penang Monthly statistics articles
- Prepare research reports and statistical analysis on key local socioeconomic issues
- Organised internal workshop on use of large language models in think-tank work

### Manager, Regional Advanced Risk Modelling, Group Risk

Kuala Lumpur

CIMB BANK BERHAD

March 2020 - May 2022

- Review and enhance model development processes to meet regulatory expectations for the use of advanced modelling methodologies in the development of Basel and IFRS9 credit risk ratings models.
- Communicate model outcomes to stakeholders to ensure that model behaviour is consistent with business expectations.
- Prepare and enhance model documentation for machine learning models to meet regulatory expectations.
- Work with model validators to address gaps in model development.
- Work with data engineers to ensure appropriateness of feature derivation logic.
- Develop scripts and internal package with R to automate analysis on AutoML platform.
- Liaise with vendor to ensure comprehensive understanding of AutoML platform processes.
- Upskill risk modellers to ensure understanding of machine learning algorithms, model explainability and fairness considerations for credit risk ratings models.

### Technical Writer

George Town, Penang

SKYMIND AI BERHAD

October 2019 - December 2019

- Prepared documentation on internally developed model deployment software to support internal and external users.
- Provided editing assistance for development of training materials.
- Drove and provided support for community engagement events.

### Data Scientist Intern

Minato-ku, Tokyo

GRID INC.

May 2019 - August 2019

- Trained real-time object detection and image segmentation models for use in agriculture using YOLOv2, SSD and Mask R-CNN deep learning architectures with internally built framework.
- Delivered substantial improvement on the accuracy of number of trees counted, relative to previously built internal model.
- Developed metrics to evaluate model to align with client objectives.
- Developed pipeline consisting of Python command line interfaces to facilitate pre-processing, partitioning and post-processing of image and annotation data.

## Data Scientist Associate

THE CENTER OF APPLIED DATA SCIENCE

Bangsar South, Kuala Lumpur

July 2018 - May 2019

- Delivered over 100 hours in training sessions for Microsoft Excel, R for Analytics, Tableau, Statistics and Data Storytelling.
- Developed training products in the areas of statistics, exploratory analysis, data visualization and machine learning using spreadsheets, R, Python and Tableau delivered through tools such as Jupyter Notebooks and R Markdown, focusing on commercial applications of data science.
- Led development teams for Excel Analytics and Regression Modelling and Evaluation modules.
- Core developer of introductory and intermediate Statistics and R for Analytics modules.
- Worked with teams to develop and deliver training material for Natural Language Processing, Neural Networks, Data Visualisation with Tableau, A/B/n Testing and Time Series Analytics and Forecasting modules.
- Developed internal conventions for material formatting.

## Research Assistant: Economics Studies

PENANG INSTITUTE

George Town, Penang

Dec 2015 - Jan 2016, Aug 2016 - Jan 2017

- Provided key research assistance for the Penang Skilled Workforce Study project.
- Scheduled and performed interviews with Human Resource, company executives and other governmental and non-governmental stakeholders.
- Prepared reports and edited report text and formatting.
- Emcee at the forum Budgeting Priorities in a Challenging Economic Environment (Nov 2016).
- Contributed to the Penang Economic and Development Report 2015/2016 and the Institute's evaluation of the Trans-Pacific Partnership Agreement (TPPA).

## Publications

1. Khor, P. (2023). Expenditure on the arts: An overview. *Penang Monthly*.
2. Khor, P., & Azmil Akil. (2023). Sports and recreation statistics. *Penang Monthly*.
3. Khor, P. (2023). On libraries, printers and publishers. *Penang Monthly*.
4. Khor, P. (2024). EPF Account 3: Flexibility or erosion of retirement savings? *Penang Monthly*.
5. Khor, P. (2023). Artificial intelligence in numbers. *Penang Monthly*.
6. Khor, P. (2024). Non-profit organisations in Penang. *Penang Monthly*.
7. Khor, P. (2023). When less is more expensive: The trend of shrinkflation. *Penang Monthly*.
8. Khor, P. (2024). The limited local benefits of Swiftonomics. *Penang Monthly*.
9. Khor, P., & Azmil Akil. (2023). The jetties of George Town. *Penang Monthly*.
10. Khor, P., & Ong, W. L. (2023). *Penang talent prospects survey 2023: Surging demand for engineering and IT talent*. Penang Institute.

## Projects

### Key Penang Statistics

Penang Institute

2023 - present

- 12 dashboards providing numerical insights into key socioeconomic issues in Penang for public consumption

### Penang Strategy for Economic Ecosystem Development

Penang Institute

2023

- Design visualisations of key economic indicators at sector and aggregate level
- Develop policy recommendations adapting various policy documents to local context

### Estimating Penang's Economic Growth

Penang Institute

2023

- Developing regional input-output models to estimate effects of economic shocks to Penang's GDP
- Re-implemented Excel model in Python
- Assisted with acquisition of local data

### Penang Economic and Development Report 2022/23

Penang Institute

FORTHCOMING

2023

- Prepared writeups for water and electricity, global business services, waste management, housing and climate change in Penang
- Assisted with acquisition of data and editing

### Impact of Covid-19 on children and women in low-income families in Penang

UNICEF/Penang Institute

FORTHCOMING

2023

- Statistical analysis including data preparation and visualisation
- Prepared writeup and editing in line with UN style guide

## Family background and child health: the role of socioeconomic status and skills

University of Wollongong

HONOURS THESIS

2017

- Econometric analysis of the relationship between parental income and child health status in Australia using two large Australian longitudinal datasets.
- Used data from the Household, Income and Labour Dynamics in Australia Survey (HILDA) and the Longitudinal Study of Australian Children (LSAC) to replicate prior longitudinal results on the effect of parental income on child health.
- Developed a novel identification strategy to estimate the effect of parental resources on child health.

## Penang skilled workforce study: labour skills for growth and change

Penang Institute

Aug 2017 - Jan 2017

- Identification of skill gaps and skill shortages in major Penang economic sectors.
- Conducted and assisted with qualitative interviews with industry stakeholders and human resource personnel.
- Assisted in the development of questionnaires for data collection and strategies to improve response rates.
- Assisted in data analysis and designing data visualizations.

## Education

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### University of Wollongong

NSW, Australia

BACHELOR OF COMMERCE (HONOURS)

2017

- Received the 2017 Honours Scholarship from the Faculty of Business based on academic performance, research and leadership potential.
- Undertook a research project as part of coursework for Advanced Macroeconomic Theory (Health and wealth: economic growth with endogenous health and human capital).

### University of Wollongong

NSW, Australia

BACHELOR OF COMMERCE (DEAN'S SCHOLAR)

2014-2016

- Awarded the Illawarra Regional Information Services John Steinke Prize in Economics (April 2017) for achieving the highest mark in 3rd-year Economics subjects.
- Awarded the Kenneth A. Blakey Prize (March 2015) for achieving the highest aggregate mark in Microeconomic Theory and Policy.
- Consistently placed in the Dean's Merit List (2014-2017), which admits the top 5% of students in the Faculty of Business.
- Awarded the Business International Academic Merit Scholarship and the Undergraduate Excellence Scholarship in recognition of academic achievement.
- Admitted to the Dean's Scholar program in recognition of high academic achievement.

### Tunku Abdul Rahman University of Management & Technology (formerly Tunku Abdul Rahman University College)

George Town, Penang

DIPLOMA IN BUSINESS STUDIES

2012-2014

- Received the Merit Scholarship amounting to 100% of the tuition fees for the length of the program in recognition of prior academic performance.
- Awarded Book Prize for overall academic performance.

## Qualifications

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### Bank Risk Management

Kuala Lumpur

ASIAN INSTITUTE OF CHARTERED BANKERS

2022

- Provide banking professionals who aspire to be risk specialists with a comprehensive understanding of bank risk management activities.

### Data Scientist Trainee

Bangsar South, Kuala Lumpur

ASEAN DATA ANALYTICS EXCHANGE

2018

- Data science finishing school for graduates covering R and Python programming modules, statistics, data preprocessing, machine learning, data visualisation with programming packages (ggplot2, matplotlib, seaborn) and interactive software (Tableau), forecasting and natural language processing.