

尋找你的熱情 finding your passion

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個人學經歷簡介

- 為何出國留學
- 為何轉讀電資
- 現職

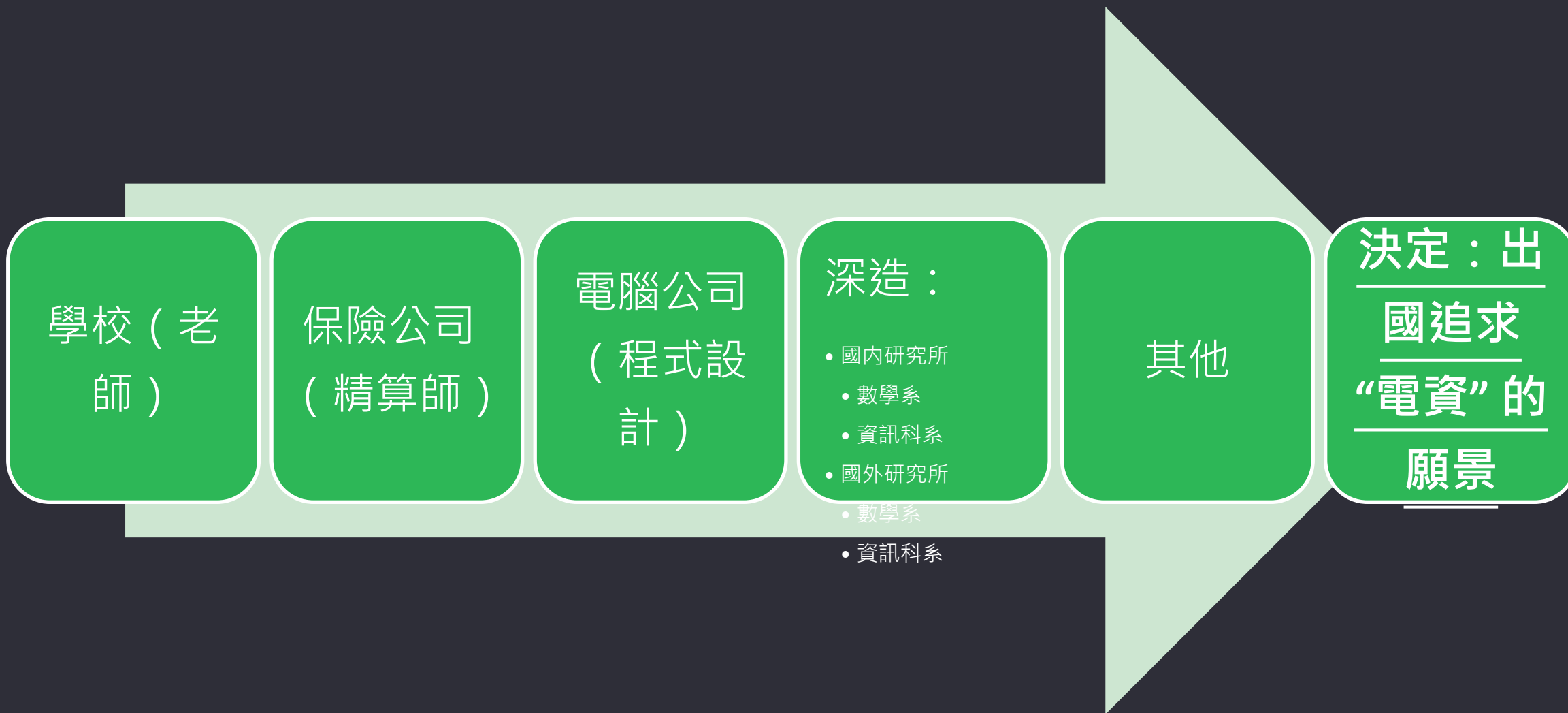
電資的樂趣與挑戰

- 需要熱情才能持久

回顧與經驗分享

- 對數學人未來發展的幾點看法

當年面對畢業后的選擇



學經歷簡介

- 現職： Ernst & Young Global Tax Platform, Platform Architect
- 學歷：
 - BA, 1980, 第十四屆輔大純數系畢業
 - MS, 1985, Computer Information & Control Engineering, University of Michigan, Ann Arbor
- 經歷：
 - (醫學院) Program analyst, University of Michigan
 - (電話通信) Member of scientific staff, Bell-Northern Research
 - (電話通信) Senior System Engineer, Fujitsu
 - (電話通信) Software Development Manager, MCI
 - (網路視頻) Senior Engineering Manager, Silicon Graphic Inc
 - (公衛醫療) Lab Information Management System Consultant, State Labs of North Carolina, NC State Government
 - (網路資安) Enterprise Security Solution Architect, Deloitte
 - (基因學生技) Life Science Solutions Architect, Liaison Technologies
 - (財稅諮詢) Ernst & Young, GTP Platform Architect



What is GTP

GTP, a cloud-enabled platform, leverages secure **Microsoft Azure** cloud infrastructure to store your data in a data lake repository. This offers your tax team one real-time portal and provides transparent visibility through dashboards that analyze workflow and process.

Data	We know your data comes from all kinds of sources, structured and unstructured. Regardless of the source, your data can be integrated into GTP.
Gather	To integrate your data, we use our gather function to collect the data and enable it to be used across all geographies, functions and services. We collect data one time and reuse.
Transform	Next, we transform your data to allow storage in a standard data model and to run exception-based validations to look for missing information, anomalies and inaccuracies.
Analyze	Once GTP has your information, GTP supports your efforts to reduce risk and drive value for your organization. It drives analytics with Power BI visual dashboards, reports, and the use of machine learning and artificial intelligence technologies.
Calculate	Since the platform is tax software agnostic, GTP allows for scalability and flexibility. Calculations are performed with the right software for the right geography and the right service. GTP also allows real-time adjustments to workpapers and underlying data, and maintains a record of any adjustments.
Deliver	GTP enables everything from simple co-sourcing to full managed service, including compliance, tax accounting, planning and controversy.



軟體的開創

團隊組織

技術與工具

製作過程

維修過程

銷售與收費

有很好的報酬與接觸先進技術的機會

要不斷學習才不被淘汰

產品要不斷的修改才被採用

需要對行業有不絕的熱忱才能持久

瞭解“電資”的一些分工

Role based Roadmaps

Frontend

Backend

DevOps

Android

PostgreSQL

Blockchain

QA

Software Architect

ASP.NET Core

Flutter

● New

Cyber Security

● New

UX Design

● New

瞭解“電資”的一些分工

Skill based Roadmaps

Computer Science

● New

React

Angular

Vue

JavaScript

● New

Node.js

TypeScript

● New

Python

System Design

● New

Java

Spring Boot

● New

Go Roadmap

GraphQL

● New

Design and Architecture

Design System

Docker

● New

Kubernetes

● New

MongoDB

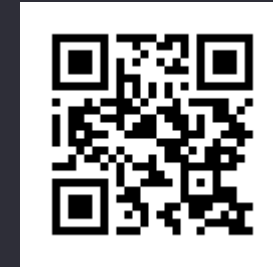
● New

瞭解“電資”的一些分工

- Front-end developer roadmap :
<https://roadmap.sh/frontend>



- DevOps developer roadmap:
<https://roadmap.sh/devops>



- Back-end developer roadmap:
<https://roadmap.sh/backend>



- Cyber Security Expert roadmap
<https://roadmap.sh/cyber-security>



<https://roadmap.sh/>

對數學人較有利的例子- 人工智慧、機器學習

- Machine Learning

- Machine Learning Roadmap

<https://www.kdnuggets.com/2022/12/complete-machine-learning-study-roadmap.html>



- Calculus - Mathematics for Data Science - Machine Learning

WHY CALCULUS?

- Calculus is absolutely key to understanding the linear algebra and statistics you need in machine learning and data science.
- If you can understand machine learning methods at the level of derivative you will improve your intuition for how and when they work.
- A deeper understanding of the algorithm and its constraints will allow you to customize its application and better understand the impact of tuning parameters on the results.

1. Prerequisite

In order for you to understand the concept of Machine Learning and everything about it - you need to know the fundamentals in and out. This includes the theories, concepts, methods, and algorithms behind it - why they do what they do and how they all act as a building block to Machine Learning. These prerequisites are surrounding analytical work, which helps you further down the line as a Machine Learning Engineer:

- Standard Deviation
- Linear Algebra
- Statistics
- Probability

Here are some resources that can help you get a more in-depth understanding:

1. [Mathematics for Machine Learning](#) - Book

[YouTube](#)

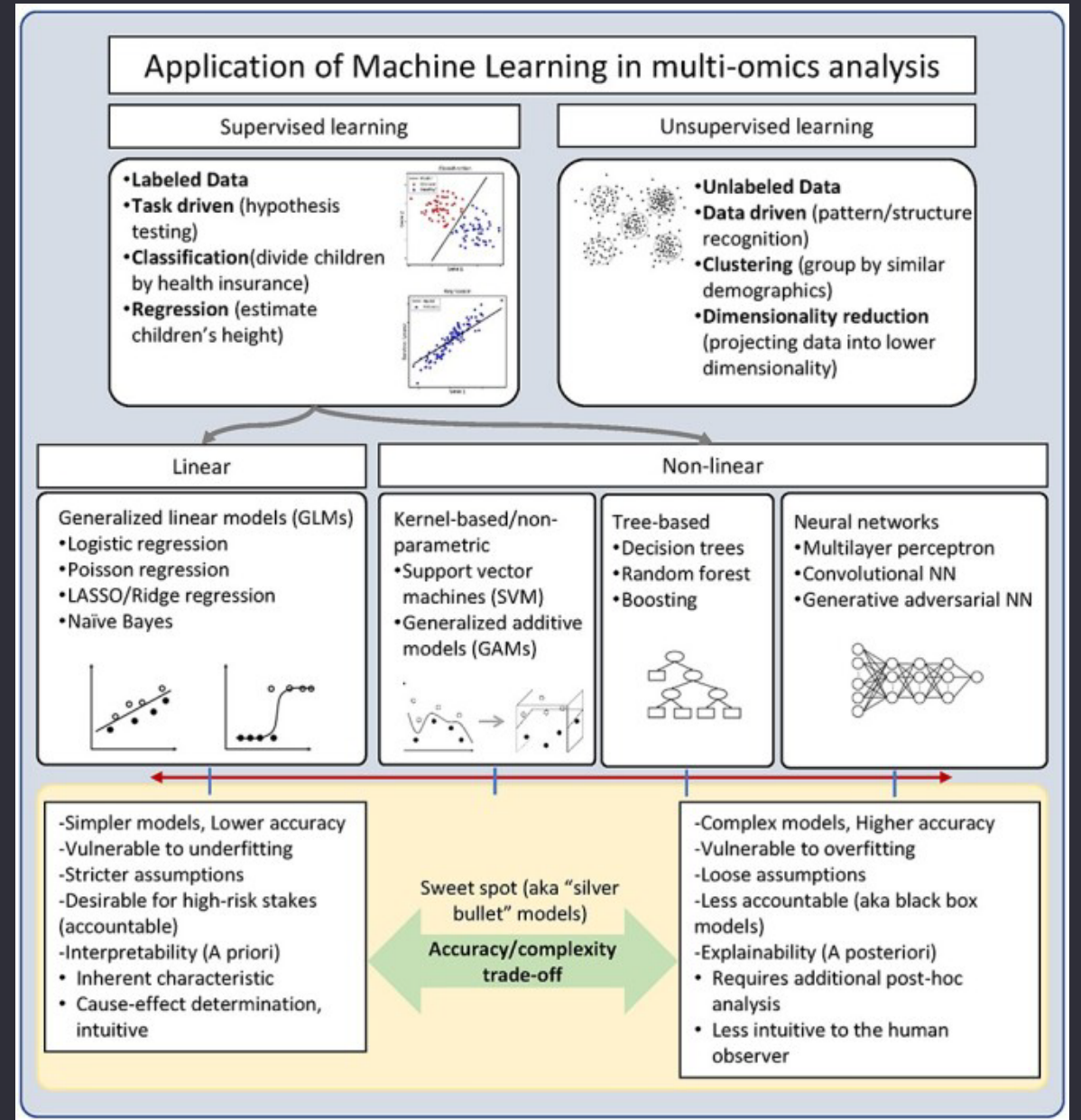
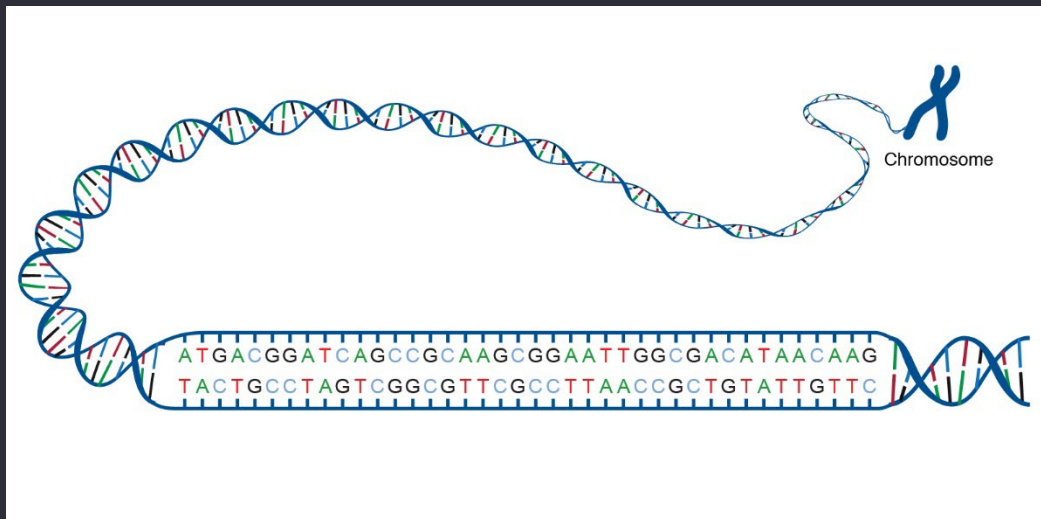
[Udemy](#) - YouTube

[Machine Learning](#) - Udemy

對數學人較有利的例子 - 生物信息學

- Bioinformatics
 - A roadmap for multi-omics data integration using deep learning

<https://pubmed.ncbi.nlm.nih.gov/34791014/>



追求“熱門科系”的願景

- (親朋好友問) 選讀數學系，對嗎？
- (自己問) 別的科系較“熱門”，不是嗎？
- 發現你的熱情：
 - 熱門科系大都需要數學，你離熱門其實不遠。
 - 數學打開許多機會之門，你去推門探索過了嗎？
 - 很多熱門科系較適合學士后深造，你是否做好了準備呢？

追求個人的願景

- 瞭解自己，確認你的目標
 - 我會不會被新的東西改變方向？
 - 我碰到困難會不會輕易氣累？
 - 我定了目標后，能長久持續下去嗎？
 - 我願意為這目標努力嗎？
 - 我能堅持直到目標完成嗎？
 - 我選的目標和我的興趣吻合嗎？我的興趣會不會再改變呢？
 - 我會勤快努力的去做該做的嗎？
 - 我會不會只暫時興奮一下就失去興致？
 - 我能克服可能的挑戰嗎？

如何發掘你的熱情 (passion)

- 嘗試修一些你覺得有興趣的課
 - <https://www.coursera.org/> 有很多免費的課可以嘗試
 - 很多著名大學也都有免費線上課程 OpenCourseWare
- 做好準備
 - 無論你的選擇是什麼，你大都需要好的基礎：
 - 英文、日文、或是其他第二語言。英文可以說是必要的，她可帶你走向大半的地球。
 - 學一種電腦程序語言：這也是任何深造或升遷都是必備的。
 - 數學：她是科學之母，只要你想在理工、生物、財務界發展，這是不可或缺的。
 - 多交朋友、建立個人品牌
 - 學問只是一個課題，只有“人”能同意你的領導
 - Build your personal network
 - Build your own brand
- 當你成功時
 - 不要忘記你的成就是多人默默幫助下的結果：give back to the world

如何發掘你的熱情 (passion)

- 嘗試讀一本好教科書
 - **Applied Linear Statistical Models (數學系絕對能讀!!!)**

by John Neter et al

There are two approaches to undergraduate and graduate courses in linear statistical models and experimental design in applied statistics. One is a two-term sequence focusing on regression followed by ANOVA/Experimental design. Applied Linear Statistical Models serves that market. It is offered **in business, economics, statistics, industrial engineering, public health, medicine, and psychology departments** in four-year colleges and universities, and graduate schools. Applied Linear Statistical Models is the leading text in the market. It is noted for its quality and clarity, and its authorship is first-rate. The approach used in the text is an applied one, with an emphasis on understanding of concepts and exposition by means of examples. Sufficient theoretical foundations are provided so that applications of regression analysis can be carried out comfortably. The fourth edition has been updated to keep it current with important new developments in regression analysis.

