代立晨

云谷学校高中工程技术老师
兼教育科技研发中心技术顾问
副高级职称、飞行员

原阿里云航空行业技术总监

推出了数字机坪、智慧空管系列产品

原阿里云 IoT Moja Lab 负责人

曾参与录制CCTV-2《秘密大改造》、浙江卫视《智造中国》节目

原阿里巴巴集团乡村振兴技术官

参与拍摄中国外文局出品的纪录片《田野之上》

科普博主

曾被央视新闻13分钟专题报道，CCTV多频道转播

三次获得阿里巴巴集团公益年度十佳项目奖。

2021年阿里技术人年度个人

中国器官移植基金会 易捷通专项基金 委员

目录

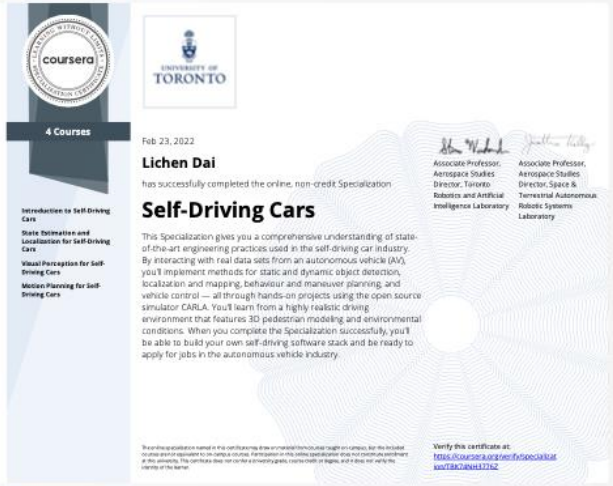
学习经历 Work Experience

- 2022-2024 Master of Engineering – Arizona State University
  - Full GPA (4/4) With Distinction
  - Data Processing at Scale (A+), Software Verif/Validation/Test (A+), Foundation of Algorithm (A+), Technology Entrepreneurship (A/A), Data Visualization (A), Cloud Computing (A+), Software Security(A+), Artificial Intelligence (A+), Advanced Computer Network (A+), Statistical Machine Learning(A+)
- 2016-2018 Bachelor of Economics – Xiamen University
- 2008-2011 Advertising - Chengdu Textile College

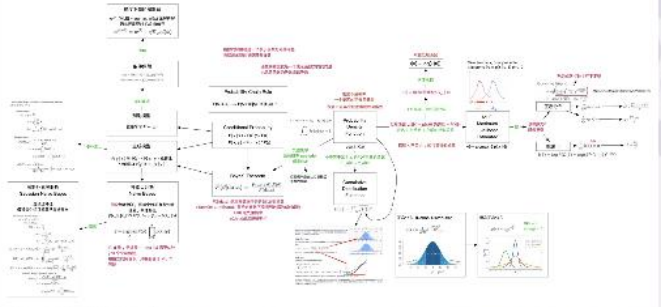
学习能力 – 我有强烈的求知欲和学习能力

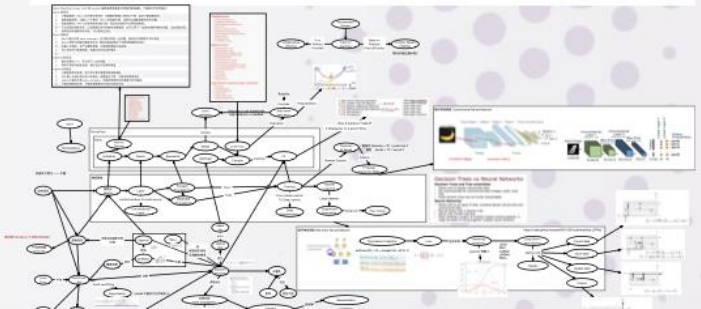
通过线上学习的课

通过线上学习完成的专业课程



各类学习笔记





资质证书

工作经历 Work Experience

- 2023-NOW Hangzhou Yungu School – Engineering and Technical Teacher
  - Responsible for the research and development and teaching of computer and engineering technology courses, and try our best to adapt high school students to the AI era.
- 2014-2023 Alibaba Group – Staff Engineer
  - Created a set of products for airport management by using Big Data and AI technology as a technical director and led about 50 engineers. Half of the Top-10 airports in China use these products. Link: (https://www.aliyun.com/solution/enterprise/airportapron).
  - Created an Accessible Data Visualization Tool (DATAV) as team leader and founder. About a million businesses in China use it to build and present business or production data. Link: (https://www.alibabacloud.com/product/datav).
- 2012-2014 Xindong Network (HK:02400) – Senior Engineer
  - It's my first time becoming a technical team leader at the company.
  - I led 6 engineers and one marketing colleague to develop main sites, forums, marketing sites, advertising tools, and a self-innovation customer service platform, and I took over a part of user grown work.
- 2011-2012 Matchmove Games Pte. Ltd. – PHP Engineer
  - As Junior Engineer to develop multi-lang SNS game website (like gaming platform on Facebook).

技术创新成果 – 作为负责人主导的项目获奖情况

加入阿里巴巴
2014

智能家居上央视
集团橙点十佳项目奖
2018

数字机坪 卓越产品奖
AR 机坪 自证预言奖
2020

集团橙点公益奖
乡村振兴技术官奖
2022

2017
GXIC 智慧园区奖

2019
集团党委火种计划前三名
集团橙点最受欢迎项目奖

2021
成都 TOCC 最佳实践奖

技术创新提案

Never stop learning and innovating

Most Valuable Innovations

protected by hidden publication

内部创新 (方案具有新颖性和业务价值，通过审批，基于创造性考虑，建议内部创新保护。)

内部创新 (基于语音指令合成的创造性考虑，建议内部创新保护。)

内部创新 (方案具有新颖性和业务价值，通过审批，基于方案使用场景考虑，建议内部创新保护。)

内部创新 (方案具有新颖性和业务价值，通过审批，基于数据格式本身方案属性考虑，建议内部创新保护。)

内部创新 (基于创造性考虑，建议内部创新保护。)

.....

Identifiable Innovations

Submitted to ANIPA

Data processing method, device and system

CN · CN110912682B · 代立晨 · 阿里巴巴集团控股有限公司

Priority 2018-09-17 · Filed 2018-09-17 · Granted 2023-04-07 · Published 2023-04-07

数据代理方法、装置以及电子设备

CN · CN108462731B · 代立晨 · 阿里巴巴集团控股有限公司

Priority 2017-02-20 · Filed 2017-02-20 · Granted 2021-04-09 · Published 2021-04-09

电量信息的处理方法及装置

CN · CN110912956B · 代立晨 · 阿里巴巴集团控股有限公司

Priority 2018-09-17 · Filed 2018-09-17 · Granted 2022-06-14 · Published 2022-06-14

消息发布方法、装置以及电子设备

CN · CN108282500A · 代立晨 · 阿里巴巴集团控股有限公司

Priority 2017-01-05 · Filed 2017-01-05 · Published 2018-07-13

论文读写 – 掌握 Latex 语法和简单的论文写作技巧

通过 Latex 写作的项目报告和图书，能够合理阐述逻辑和引用他人的研究成果

```
\section{Summary}
This project required the classification of a subset of the MNIST data set by the Naive
Bayes Classifier and Logistic Regression Classifier.

For the subset that only contains examples of digital 7 and 8. And 28*28 pixels for each
example with a label 0 and 1, which represented digital 7 and 8. Overall, 12116 pictures
were labeled 6265 as digital 7 and 5851 as digital 8.

As required in this project, two features were extracted to classify from the 28*28
pixels: mean and standard deviation.

Finally, I have three classifiers in this project: a Naive Bayes by Gaussian
Discriminant Analysis\cite{gaussian_discriminant_analysis} as required, a Gaussian Naive
Bayes without calculating the covariance matrix, and a Logistic Regression Classifier.

\section{Naive Bayes (with Gaussian Discriminant Analysis )}
This method uses Multivariate Normal Distribution (MND)
\cite{multivariate_normal_distribution} as the Probability Distribution Function (PDF).

\begin{align}
p(X_x | Y=y) &= p(X_x|{\Sigma_{xy}\mu_{xy}}) \\
&= \frac{1}{(2\pi)^{n/2}|\Sigma_{xy}|}exp(-\frac{1}{2}(x-\mu_{xy})^T\Sigma^{-1}(x-
\mu_{xy}) ) \tag{MND}\label{MND}
\end{align}

\subsection{train}
At the training stage (\ref{fml:naive_bayes:train}), three important values were
prepared: prior probability, mean, and the covariance for each label and dimension.

\begin{align}
Training \ Stage:& \label{fml:naive_bayes:train}\\
P(Y=y) &= \frac{n_y}{n}\\
\mu_{xy} &= \frac{1}{n_y}\sum_{i=1}^{n_y}X_x^{(i)} \\
\Sigma_{xy} &= \frac{1}{n_{xy}-1} \sum^{n_y}_{i=1}(X_x^{(i)}-\mu_{xy})(X_x^{(i)}-
\mu_{xy} ) \\
\end{align}

Since the covariance does not make this process naive, it hardly assigns 0 to the
covariance matrix to let it be a diagonal matrix to implement the naive assumption.

\begin{lstlisting}[language=Python]
    # make it naive
```

Density Estimation and Classification

Lichen Dai
Arizona State University
eric.dlc@asu.edu

I. Summary

This project required the classification of a subset of the MNIST data set by the Naive Bayes Classifier and Logistic Regression Classifier.

For the subset that only contains examples of digital 7 and 8. And 28*28 pixels for each example with a label 0 and 1, which represented digital 7 and 8. Overall, 12116 pictures were labeled 6265 as digital 7 and 5851 as digital 8.

As required in this project, two features were extracted to classify from the 28*28 pixels: mean and standard deviation.

Finally, I have three classifiers in this project: a Naive Bayes by Gaussian Discriminant Analysis[1] as required, a Gaussian Naive Bayes without calculating the covariance matrix, and a Logistic Regression Classifier.

II. Naive Bayes (with Gaussian Discriminant Analysis)

This method uses Multivariate Normal Distribution (MND) [2] as the Probability Distribution Function (PDF).

$$p(X_x|Y=y) = p(X_x|\Sigma_{xy}\mu_{xy}) \tag{1}$$
$$= \frac{1}{(2\pi)^{n/2}|\Sigma_{xy}|}exp(-\frac{1}{2}(x-\mu_{xy})^T\Sigma^{-1}(x-\mu_{xy})) \tag{MND}$$

A. train

At the training stage (2), three important values were prepared: prior probability, mean, and the covariance for each label and dimension.

$$Training\ Stage: \tag{2}$$
$$P(Y=y) = \frac{n_y}{n} \tag{3}$$
$$\mu_{xy} = \frac{1}{n_y}\sum_{i=1}^{n_y}X_x^{(i)} \tag{4}$$
$$\Sigma_{xy} = \frac{1}{n_{xy}-1}\sum_{i=1}^{n_y}(X_x^{(i)}-\mu_{xy})(X_x^{(i)}-\mu_{xy}) \tag{5}$$

i7 Gen 12	docker	69
i5 Gen 8	docker	74
i5 Gen 8	VM	88
i7 Gen 10	VM	100
i7 Gen 8	unknow	160
i7 Gen 8	docker	300
i7 Gen 6	VM	420

TABLE I
Running on 10 billion of data with difference codes by

$$\begin{cases} I = \{0, 1, ..., number\ of\ partitions\} \\ j \in I - \{number\ of\ partitions\} \\ i \in I \\ S_i = (\frac{5}{number\ of\ partitions}) * i \end{cases}$$

$$able_j = \sigma_{S_j < rating \le S_{j+1}}(Ratings)$$

created the *Robin Partition* tables by append
) [6] to projection.

$$Set \begin{cases} n = number\ of\ partitions \\ j \in \{0, 1, ..n-1\} \end{cases}$$

$$\text{od}(row\_number()-1,n)=j}(\pi_{*,row\_number()}(Ratings))$$

hen a new data comes I have been re-
add a new row to both partition ta-
v table. For either Robin Partition or
tion, the first thing have to do is de-
v many partitions there are by count
e $prefix\%(information\_schema.tables)$. And
them respectively.
Partition, I counted all the data of each par-
d out the minimal one to execute insert.

For Range Partition, I fount the target partition to insert by calculate partition number as $PartitionNumber = ceil(rating/(\frac{max\ rating}{number\ of\ partitions})) - 1$.

III. Projects

A. NoSQL

The project required a new database, UnQLite, which I never use before. It's a "lightweight, embedded NoSQL

```
was implemented auto-scaling to reduce resource costs and increase work efficiency. This
project provided a service to recognize images from users. Since a recognizing process
needs time to do the job, we can't finish the process in several milliseconds.
Therefore, the concurrency of requests is very sensitive. If it meets a rapid amount of
requests, it must be jammed up and low efficiency.

Therefore, this project takes advantage of the elastic expansion and contraction of
cloud computing to cope with sudden traffic while ensuring low cost. That is, keep small
resources running in daily life, and when meeting large traffic, expand service
```

```
\include{chapters/版本迭代管控}
\include{chapters/部署运维升级}
\part{行业最佳实践}
\include{chapters/政企行业数字化实践}
```

校外公益科普

开发面向乡村教育的专项公益科普课程

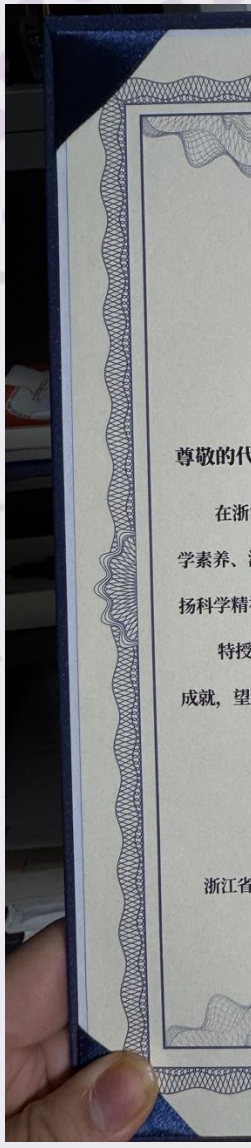
浙 江 省 科 学 技 术 协 会

关于发布 2025 年“人工智能+”精品科普课程清单的通知

序号	专家姓名	所在单位、职务/职称	课程名称
41	代立晨	杭州云谷学校	《人工智能与教育》

浙江省科学技术协会

2025 年 2 月 26 日



面向乡村教师的 AI 教育场景培训

iD3梦想飞·2023秋季公益直播·预见未来人才之《GPT创新未来...

4个月前 - 梦想飞《预见未来人才》之《GPT创新未来》公益直播即将开启!本学期,引路人将带领同学们认识自己的兴趣,发掘潜在的潜能....代立晨 杭州云谷学校工程技术老师兼教育科技技术顾问原阿里云自动驾驶数据智能平台负责人梦想引路人:杨...

iD3梦想飞 - weixin.qq.com - 2023-09-27

校内工作

课程规划

计算机科学原理
CL Computer Science Principal

针对全体学生开设的计算机课程
为了在未来“虚实结合”的世界中更好地生活我们应该要去理解计算机的原理和基本的运作方式，并拥有对于技术的判断能力和利用的能力。

大学编程
CL Programing

针对对于编程拥有强烈兴趣的通过本课程将深入编程的原理，透过高级编程的学习理解编程的本质，让学生不受限于单一语言语法的框架，拥有面向问题编程的能力。

专项进阶课程
Advanced Programs

针对有志于在计算机领域发展的同学在完成计算机科学原理和大学编程两门课程的基础上，增设项目驱动的网路安全、数据结构与算法、机器学习、应用开发等课程。

F18 驾驶舱项目
F18 Warcraft Cockpit Project

通过 C++ 开发驾驶舱中的各类控制器
通过 Arduino 生态完成电子器件的研发
通过 Fusion 360 完成驾驶舱的建模
通过 DCS-Bios 完成对模拟器的通信

火箭工程
Rocket Engineering

本课程将面向火箭控制系统进行研究，包括通过编程实现火箭仿真、设计测试方案进行可控迭代和实际火箭的控制和遥测等。（课程正在开发中）

社团和顶石课程
CCA & Capstone

在常规课程之外，由专业的老师对学生感兴趣的项目、课题进行针对性地指导，帮助学生完成自己的项目，学习自己真正想学的内容

教师培养

面向指导高中生长期项目的 AI 面谈模拟器和workshop