# 蔡依珊

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# 教育背景

加州大学圣地亚哥分校,数据科学,数学-概率与统计,本科

2021.09 - 2025.06

- GPA: 3.84 / 4.0; 荣誉: 教务长荣誉奖
- 相关课程:数据结构与算法,机器学习,数据挖掘,数据库管理,数据可视化,概率论,数理统计,随机过程, 金融数学,应用线性代数,多元微积分

# 技能

编程技能: Python, SQL, Java, Spark, R, MATLAB; JavaScript, HTML, CSS

工具: Git, AWS, VS Code; Tableau, Power BI, Excel, Stata, ArcGIS

语言: 英语 (托福 106)

# 实习经历

# 腾讯科技(北京)有限公司

2024.06 - 2024.09

CSIG 事业群 - 企点产品部 - 商业分析实习生

中国, 北京

- 参与企点营销云中的客户数据平台 (CDP)、营销自动化平台 (MA)、和会员管理平台 (LM) 的优化
- 开发 ETL 流程实现数据的提取、验证和转换,通过 SQL 预处理原始事件数据并构建标签体系,支撑日活 15 万 + 用户的行为数据处理,为营销决策提供分析支持
- 分析转化漏斗,追踪从应用启动到支付的全流程,识别关键流失点,并提出优化策略,使用户激活率提升10%
- 通过 Tableau 构建自动化数据看板,监控不同生命周期人群的关键指标,识别高价值用户群(前 20% 用户贡献 40% 营收),并制定个性化营销策略
- 展开会员体系竞品分析,设计并优化会员管理机制,提升用户粘性与复购率

#### 第四范式科技有限公司

2023.06 - 2023.09

科学技术部 - 大模型数据实习生

中国、北京

- 整理总结小红书笔记、知乎文章、今日头条文章等平台的文本数据特征,利用 Python 进行大规模非结构化数据清洗,处理总量达 923G
- 对清洗后的语料库数据进行准确性、完整性和规范性的抽样评估,完成45份+针对数万条数据的评估报告, 优化后平均准确率提高约22%
- 为不同任务类型构建模板,包括中英翻译、文本摘要、情感分析、阅读理解、信息抽取等,创建 2000+ 个 prompts,并编写监督式微调 (SFT) 模型训练的答案以提升模型性能

### 项目经历

#### 文本情感分析与情感转换、组员

2024.09 - 2024.12

- 通过 GPT 生成并人工优化,构建包含 6 种情感、10 个强度等级的 3,000+ 句情感数据集
- 基于 BERT 预训练模型构建文本情感分类系统,引入自注意力机制捕获文本的上下文依赖特征,通过交叉熵损失函数和 AdamW 优化器进行模型训练,实现 98% 的验证准确率
- 构建 BERT 回归模型用于情感强度预测,并结合掩码与缩放技术,将均方误差降低至 0.1
- 设计基于表征工程与 T5 Transformer 的情感转换方法,可根据目标情感调整句子情绪,通过人工评估验证效果

# 远程工作与心理健康的因果发现分析,组长

2024.09 - 2024.12

- 主导因果发现算法 (PC、FCI、GES) 性能分析,研究远程办公对心理健康的影响
- 设计包含线性与非线性关系的模拟数据,涵盖社交孤立、工作时长、压力等关键变量
- 采用 Fisher Z、KCI、ANM 等方法,实现 87.5% 的因果推断准确率,验证远程办公与心理健康的分析框架

#### 银行开户欺诈检测、联合负责人

2024.01 - 2024.03

- 分析银行账户欺诈数据集,进行探索性数据分析 (EDA)、统计检验、特征选择,并使用 Matplotlib 进行可视化
- 应用及优化决策树、XGBoost 和 CatBoost 算法的预测模型,以检测欺诈性银行账户申请,达到 80% 的准确率
- 进行特征工程和超参数调优,使用 GridSearch 进行 5 倍交叉验证,从而识别出对模型性能提升重要的关键特征

#### 全球互联网使用趋势可视化、组员

2024.01 - 2024.03

- 使用 Svelte、HTML 和 JavaScript 开发网站结构和样式
- 设计全球互联网使用趋势的交互式地图, 伴随集成滑动条、搜索功能、排名列表和动态折线图等交互组件, 提升用户体验和数据分析能力

# Yishan Cai

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#### **EDUCATION**

#### University of California, San Diego

La Jolla, CA

B.S. in Data Science & B.S. in Probability and Statistics

Sep. 2021 – Jun. 2025 (expected)

- **GPA**: 3.84/4.0, Provost Honors
- Relevant Coursework: Data Structure and Algorithms, Machine Learning, Data Mining, Database Management, Data Visualization, Scalable Analytics Systems, Math Statistics, Stochastic Process, Multivariable Calculus, Linear Algebra

#### **SKILLS**

- Languages: Python, SQL, Java, Spark, R, MATLAB, JavaScript, HTML, CSS
- Libraries & Tools: NumPy, Pandas, Scikit-learn, PyTorch, Tensorflow, Matplotlib; AWS, Tableau, Power BI, Stata, ArcGIS

#### WORK EXPERIENCE

#### Tencent Technology (Beijing) Co., Ltd

Beijing, China

Business Analyst Intern, Qidian Product Department

Jun. 2024 - Sep. 2024

- Participated in the optimization of the Customer Data Platform (CDP), Marketing Automation Platform (MA), Loyalty Management Platform (LM) for Qidian Marketing Cloud, a B2B SaaS Intelligent Marketing Platform
- Developed an ETL pipeline to ingest, validate, and transform data for 150K+ DAU, using SQL query for preprocessing raw event data and computing user behavioral metrics
- Conducted conversion funnel analysis from app launch to payment, identifying key drop-off points and proposing optimization strategies that improved user activation rate by 10%
- Built automated dashboards in Tableau for user segmentation analysis, identifying high-value user segments (top 20% users contributing 40% revenue) and developing personalized marketing strategies
- Initiated competitive analysis on membership strategies and designed an enhanced membership system

#### Fourth Paradigm Technology Co., Ltd.

Beijing, China

LLM Data Intern, Science and Technology Department

Jun. 2023 – Sep. 2023

- Compiled and summarized text data characteristics from platforms such as Xiaohongshu, Zhihu, and Toutiao, and performed large-scale unstructured data cleaning using Python, handling a total volume of 923 GB
- Executed sampling evaluations of the cleaned corpus for accuracy, completeness, and consistency, produced over 45 evaluation reports on tens of thousands of data points, and improved average accuracy by ~22% after optimization
- Constructed JSON templates for Q&A tasks including text summarization, sentiment analysis, information extraction, and created 2,000+ manually crafted prompts and answers for supervised fine-tuning

### **RESEARCH & PROJECTS**

#### Fine-Grained Text Sentiment Analysis and Transfer | report

Sep. 2024 – Dec. 2024

- Generated a 3,000+ sentence emotion dataset across 6 emotions and 10 intensity levels using GPT and manual refinement
- Established a BERT-based emotion classifier with 98% validation accuracy by optimizing direct sentence processing
- Built a BERT regression model for emotion intensity estimation, achieving a 0.1 mean error rate with masking and scaling
- Engineered emotion transfer methods using Representation Engineering and T5 Transformer, validated via human evaluation

#### Causal Discovery Analysis of Remote Work and Mental Health Data | report

Sep. 2024 – Dec. 2024

- Led performance analysis of causal discovery algorithms (PC, FCI, GES) studying remote work's impact on mental health
- Implemented data simulations with linear and non-linear relationships between isolation, work hours, and stress variables
- Achieved 87.5% accuracy using Fisher Z, KCI, and ANM, validating a framework for analyzing remote work mental health

#### **Bank Account Fraud Detection** | report

Jan. 2024 – Mar. 2024

- Investigated Bank Account Fraud dataset, conducted EDA, statistical testing, feature selection, and Matplotlib visualizations
- Employed and optimized predictive models using Decision Tree, XGBoost, and CatBoost algorithms to detect fraudulent bank account applications, achieving 80% accuracy
- Conducted in-depth feature engineering and hyperparameter tuning using GridSearch with 5-fold cross-validation, leading to the identification of crucial features that contributed to enhanced model performance

# Decades of Global Internet Usage: A Visual Overview

Jan. 2024 - Mar. 2024

- Developed the structure, style, and design of the website using Svelte, HTML, and JavaScript
- Crafted an interactive map visualization of global internet usage trends, integrating features like sliders, search functionality, ranking lists, and dynamic line plots for enhanced user interaction and detailed analysis