DENG BOYU

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Male

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Profile

I have a strong background in machine learning and deep learning, with relevant project experience, and I am passionate about my work.

Education

The Hong Kong Polytechnic University(PolyU)
Master
08/2022 – 10/2023 | Hong Kong, China
Major: Biomedical Engineering
Core Subjects: Biostatistic, Medical Artificial Intelligence and Data Analysis, Wearable Device

Guangzhou University of Chinese Medicine(GZUCM)
Bachelor
09/2018 – 06/2022 | Guangzhou, China
Major: Biomedical Engineering
Core Subjects: Machine Learning, Python, C, Digital Imaging

Project Experiments

Machine Learning Project of Medical Imaging
- Conducted a scientific research project that focused on using machine learning models to predict the status of lung cancer in patients by combining medical imaging features and clinical features.
- Co-authored a scientific paper on the topic, which was published in a peer-reviewed journal.
- Responsible for extracting texture features from medical images and building machine learning models such as SVM and random forest using programming software such as Python and R.
- Achieved over 90% accuracy in validation sets and an AUC of over 90% for the developed machine learning models.
- Published article: DOI: 10.3389/fonc.2022.994285

Kaggle BirdCLEF 2024 Bronze medal🥉
- Project Overview: Bird Sound Classification
- Specific Work: Utilized ogg audio data, transformed it into array data, and constructed a classification model based on the EfficientNet architecture. Employed 5-fold cross-validation to develop five sub-models, with the final predictions being the average of the outcomes from these models.
- Competition Ranking: 98th out of 975 participants, earning a Bronze medal.

Awards

Mathematical Contest in Modeling (MCM) and Interdisciplinary Contest in Modeling (ICM)
2020
Honorable mention

Working Experiments

Guangzhou Laboratory
AI Algorithm Engineer (Full-time job)
07/2023 – present | Guangzhou, China
- ***Computer Vision***
  - Achieved 90% ACC in image classification by integrating ViT model with image(About 80 thousand images).
  - Exceeded 91% AP in object detection(Medical images) using YOLOv8(About 2,000 images).
  - Researched multi-instance learning with cell slice images, exceeded 80% ACC&AUC .
- ***NLP&LLM***
  - Deployed large language model with localization using FastChat Framework and Flask Framework.
  - Medical text classification with ACC&AUC exceeding 90% based on DeBERTa model (About 10,000 text data).
- ***Multimodal Large Language Model***
  - Fine-tune the Qwen-VL model on medical VQA data, with evaluation loss < 0.1(About 1,000 VQA data).

NetEase Game
Data Analyst (Internship)
09/2021 – 12/2021 | Guangzhou, China
- ***EDA***
  - Provided data analysis and annotation support to product teams.
  - Assisted AI laboratory with text data preprocessing tasks.
  - Supported data analysts in report generation.

Lvshou
Data Analyst (Internship)
01/2021 – 02/2021 | Guangzhou, China
- ***EDA***
  - Managed data extraction, integration, and monitoring, ensuring data quality and generating weekly sales reports.
  - Analyzed e-commerce sales data, formulated strategies to boost sales, and eliminated underperforming tactics.

Skills

- Languages: Native-level proficiency in Mandarin and Cantonese. Fluent in English.
- Python: Proficient in data analysis and machine learning libraries such as Pandas, NumPy, Matplotlib, and Sklearn. Experienced in applying the PyTorch deep learning framework. Skilled in using PySpark for big data processing. Experienced in utilizing AutoML tools.
- MySQL: Proficient in MySQL, including a solid understanding of basic syntax structures. Experienced in performing fundamental operations such as data retrieval, filtering, and table joins.
- C: Proficient in C programming, including a strong understanding of basic syntax structures.
- Linux: Familiar with basic operations on the Linux platform