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Summary

I specialize in creating efficiency-boosting applications, such as a visualized animal population predictor that aids scientists in easily comprehending reproductive and migratory patterns. Additionally, I developed a restaurant management system featuring swift order organization and ingredient tracking, thereby enhancing restaurant efficiency. Furthermore, I designed a classifier using ensemble learning,distinguishing 50 types of school meals with a 7% accuracy improvement over a pretrained EfficientNet model.

Education

National Cheng Kung University - M.S in Electrical Engineering

Courses:

“Introduction to Neural Networks”: An introduction to the history and common architectures of NNs.

“Computer Vision in Deep Learning Implementation and Its Applications”: An introduction to CNN-based computer vision, Deep Learning concepts and techniques.

National Cheng Kung University - B.S in Engineering Science

Courses:

“Operating Systems”: Learn the fundamental concepts (e.g. Process、Deadlock) of computer systems.

“Introduction to Computer Networks”: Learn principles and protocols (e.g. TCP/IP) of computer network.

“Microprocessor and Interface Design”: Learn the architecture of microprocessors and implementing applications on the 8051 chip using C.

Projects

School Meal Classifier:

- Utilize Keras and pretrained ImageNet models to build a classifier capable of classifying 50 types of school dishes from a dataset comprising over 20000 photos.
- The proposed ensemble learning method, employing two models, improves overall accuracy by 7%, with a Top-1 accuracy of 82% and a Top-5 accuracy of 98%, as compared to a single-model transfer learning approach.

Animal Population Predictor:

- A Python application implementing a simplified version of the Markov and Leslie models that can predict animal migration and reproduction.
- Enhance the user experience with a user-friendly GUI and plot-visualized results.

Restaurant Management System:

- A backend system designed for restaurants that integrates online ordering, order management, and inventory tracking—an all-in-one solution aimed at enhancing restaurant efficiency. Developed cooperatively with fellow students.
- Use Node.js Express framework and Mongo DB to implement CRUD operations and login system.
- To ensure that all users view the most recent content, synchronize the site contents using sockets.
- The MVC system architecture makes maintenance easier than initial PHP version.