Tom Lam

Computer Science Student | Machine Learning Enthusiast

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SUMMARY

- First year computer science student with a passion in computer vision
- Solid foundation in Python programming, data structures and algorithms
- Familiar with data analysis and ML tools, e.g. PyTorch, Scikit-learn, Matplotlib

PROJECTS

Land Cover Segmentation with UNets | *Python, PyTorch, Matplotlib, Numpy, ML* | ○
- Re-implemented UNet and ResUNet-a in PyTorch
- Trained the models to perform semantic segmentation on the Multi-Source Satellite Imagery for Segmentation Dataset on Kaggle
- Visualize the segmentation results, model accuracy and IOU scores with Matplotlib

LeNet-5 from Scratch | *Python, Numpy, Pillow, ML, Linear Algebra, Tkinter* | ○ 📝
- Re-implemented the LeNet-5 model from Yann Lecun's paper (1998) using numpy
- Created a handwritten digit recognition app with my LeNet-5 model
- Implemented a primative neural network library with a handful of NN modules

    Layers: Linear, Conv, Flatten, RBF, ReLU, Tanh, SoftMax, Sigmoid
    Criterions & Optimizers: MSE, CrossEntropy, BCE, SGD, Adam
    Normalization & Regularization: MaxPool, AvgPool, BatchNorm, Dropout
    Initialization: Xavier, Kaiming, LeCun

Rice Image Classification | *Python, PyTorch, Matplotlib, ML, Scikit-learn, Seaborn* | ○
- Created a CNN model to classify the 5 types of rice from the Rice Image Dataset on Kaggle
- Visualized the model accuracy and results with graphs and confusion-matrices
- Achieved an accuracy and average F1-score of over *99%*

Fuzzy Trie | *Python, OOP, Dynamic Programming, Data Structures, Unit Tests* | ○
- Constructed a prefix-tree data structure with approximate string matching function
- Re-implemented the fuzzy search algorithm modified from Shang and Merrettal's paper (1988)
- Developed following OOP principles and PIP8 Python style guide
- Utilized the Python unittest library to create test cases for the tries

EDUCATION

University of Bristol	Bristol, UK
B.Sc. Computer Science	*Sep 2024 - Present*
University of Warwick 🎓	Coventry, UK
International Foundation Programme in Computer Science	*Sep 2023 - Jun 2024*

- Grade: Distinction (*92%*)

SKILLS

Programming languages: Python
Web Frameworks: Django
Data Analysis Tools: Matplotlib, Numpy, Pandas, PyTorch, Scikit-learn, OpenCV, Pillow
Languages: English, Cantonese, Mandarin

COURSES & CERTIFICATIONS

IBM AI Engineering (online course) ❄
Issued Jul 2024 by Coursera — Authorized by IBM

TEST SCORES

IELTS Academic — 8.0 (C1)	Dec 2023

- Reading: *9*, Listening: *9*, Writing: *7*, Speaking: *6.5*