Lingyu Yang

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EDUCATION

Northeastern University 09/2021 – 05/2023

Master of Science in Electrical and Computer Engineering, GPA 3.8/4.0 Boston, MA

- Courses: Network Programming, Data Visualization, Fundamentals of Computer Engineering, Machine Learning and Pattern Recognition, Advanced Computer Vision, Database Management System

Hebei University 09/2017 – 06/2021

Bachelor of Engineering in Biomedical Engineering, GPA 3.7/4.0 Baoding, China

- Hebei University Scholarship, Outstanding Student Leader of Hebei University

PROJECT EXPERIENCE

Image style migration based on GAN neural networks 09/2022 – 12/2022

Computer Vision Project, Northeastern University Boston, MA

- Implemented a style migration framework based on **GAN** networks, resulting in a **50%** reduction in image rendering time and a significant improvement in visual coherence and fidelity
- Conducted comprehensive analysis of GAN networks, evaluating style migration techniques; summarized and compared results of algorithms across diverse themes, producing detailed reviews with actionable insights

Social Media Web Application 02/2022 – 06/2022

Full Stack Project, Northeastern University Boston, MA

- Developed an advanced full-stack RESTful Python social media web application using **Django** and **React** frameworks, serving over **10,000** users, driving a **35%** increase in user engagement
- Designed and implemented a scalable backend using **Django MVT** architecture as the controller, **MySQL** database with stored procedures and connection pools for efficient querying, **Nginx** for load balancing and proxy to distribute traffic, and **Oauth** for user authentication and logging
- Established the front-end development using React, enabling **AJAX** functionality through Axios.js and optimizing data retrieval from API, resulting in a **25%** reduction in page load time

Data analysis and visualization of movie popularity 01/2022 – 03/2022

Data Analysis and Visualization Project, Northeastern University Boston, MA

- Classified and extracted data from a massive dataset of **26 million** movies using **Pandas**, resulting in a streamlined dataset for analysis, improving data processing efficiency by **40%**
- Utilized **Python** and **TensorFlow** to construct and train the **TextCNN** network, driving the development of an advanced movie recommendation system, resulting capture of user characteristics
- Implemented **Matplotlib** and **Plotly** to produce data visualizations, providing movie studios with actionable insights to inform marketing campaigns, audience targeting, and revenue optimization efforts

WORK EXPERIENCE

Interdisciplinary Research Center for Medical Engineering, Hebei University 12/2020 – 03/2021

Machine Learning Engineer Intern, image processing Baoding, China

- Used **Pydicom**, **OpenCV** for DICOM file conversion processing; Utilized **MATLAB** to preprocess the dataset, applying image enhancement techniques and random rotation to improve model generalization
- Constructed a **U-NET** neural network using **PyTorch**, fine-tuning hyperparameters, precisely the number of U-NET layers and channels for the task of lung CT images
- Improved the accuracy of conventional image segmentation to **91%** segmentation accuracy, contributed to the foundation of subsequent lung image classification tasks through precise lung image segmentation

ADDITIONAL

- Programming Languages: Python, C++, R, MATLAB, SQL, JavaScript, HTML/CSS
- Frameworks and Tools: PyTorch, Pandas, OpenCV, Django, Hugo, Git
- Interests: Photography, Vlog, Concerts, Films, Table Tennis, Swimming