Wentao Yao

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EDUCATION

Northwestern University Evanston, IL

Master of Science in Artificial Intelligence; GPA: 4.0/4.0 *Sept. 2021 – Dec. 2022*

The Ohio State University Columbus, OH

Bachelor of Science in Computer Information Science; GPA: 3.5/4.0 *Aug. 2017 – May 2021*
Minor in Mathematics

EXPERIENCE

Precise Software Solutions Inc. June 2022 – Present

Data Scientist Intern *Rockville, MD*

- **Document A.I.:** Detected and accurately annotated figures from images of page-based documents. Build prediction model based on the **Faster R-CNN** model pre-trained on the **PubLayNet**. Participated in the design of a post-processing pipeline for improving performance.
- Designed a new evaluation metric that replaced the **IOU(intersection over union)** to measure the integrity of the figure. The post-processing increased the accuracy of annotation for the detected figures **from 0.9623 to 0.9926** on the **DocBank** dataset.
- **Pill Recognition:** Identify the authenticity of the drug through the user's photo.

The Home Depot March 2022 – June 2022

Practicum Student *Evanston, IL*

- **Point-of-sale (POS) system:** Created a **deep learning pipeline** to recognize and locate products when customers scan at the self-checkout based on **YOLO-V4 mode**.
- Used pre-trained **Mask RCNN** model and **GrabCut** algorithm to get segmentation mask and remove occlusion on the target product.

Sichuan Pacific LLC May 2021 – August 2021

Data Scientist Intern *Chengdu, China*

- **Structural Damage Detection:** Applied computer vision algorithms help improve the efficiency and accuracy of quality inspection during equipment installation. Corrected industrial cameras' **lens distortion and illumination** and used them to monitor the products.
- Participate in design and testing of detecting damage and integrity of industrial products using **DenseNet** and **K-NN**.

Hantu LLC May 2019 – August 2019

Back-end Developer Intern *Chengdu, China*

- **Office Automation(OA):** An internal company-used **DevOps** system developed on the **SpringBoot** framework. Participated in the design of database operations, data processing logic, and interactions between **front-end** and **back-end** services with **MySQL**.

PROJECTS

- **Covid-19 Twitter Analysis:** Used sentiment analysis on the topic of the Covid-19 vaccine to the trend of public opinion on the Covid-19 over time. Tech: **NLP, BERT, Graphic Analysis** (Mar. 2022 – June 2022)

- **Image Style Transfer by CycleGan:** Applied cutting-edge CycleGan model. Achieved the transfer of Monet's and Van Gogh's painting styles to each other. Tech: **GAN, U-net, TPU , TensorFlow** (Jan. 2022 – Mar. 2022)

- **Covid-19 Detection by Image Recognition:** Used lung X-Ray image to detecte Covid-19. Received a score of the accuracy of and **0.9775** with VGG-16 in. Tech: **VGG-16, GPU Training, PyTorch** (Sept. 2021 – Dec. 2021)

- **Citizen's Police Data Project:** Analyzed a **real-world** database, Citizens Police Database with Postgres. Participated in data cleaning and visualize complaints and the use of force reports against the police. Tech: **Postgres, Tableau, Data Cleaning, Graphic Analysis, NLP**(Sept. 2021 – Dec. 2021)

- **Time-Sensitive A.I. Restaurant Recommender:** Developed an A.I. chatbot to provide accurate and timely restaurant recommendations base on the users' habit.Tech: **Collaborative Filtering** (Sept. 2020 – Dec. 2020)

TECHNICAL SKILLS

Languages: C, C#, Java, Python, SQL, MATLAB, and LaTeX,
Tools & **Services:** Git, Docker, AWS, VS Code, PyCharm, Jupyter, Eclipse and Tableau
Frameworks & **Libraries**: pandas, NumPy, Matplotlib, PyTorch, TensorFlow, MySQL, Postgres, and SpringBoot