Yutian Chen

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EDUCATION

BSc. Data Science and Machine Learning | Cumulative QPA: 4.0 Pittsburgh, PA | Sep 2021 - Now
Carnegie Mellon University
Coursework: Matrices and Linear Transformation; Calculus in Three Dimension

RESEARCH EXPERIENCE

MEDICAL IMAGE SEGMENTATION | Link Python, Computer Vision | Dec 2018 - Jan 2020
With the help of **Prof. Shi** and **Dr. Xu**, I Proposed a new model using 3D Res U-Net as encoder and Bidirectional Conv-LSTM as decoder and test the performance of the model on the **ACDC Dataset**.
The resulted paper *Myocardial Segmentation of Cardiac MRI Sequences with Temporal Consistency for Coronary Artery Disease Diagnosis* is published on **Frontiers in Cardiovascular Medicine**.

WORK EXPERIENCE

CHACHA TECH | Data Scientist Intern Guangzhou, China | Jan 2021 – Apr 2021

- Performed identity matching on 2 Million + data entries across multiple platforms with overall matching rate of 90% and support incremental update.
- Perform image classification, enhancement and OCR using **PyTorch**, **PIL**, and **AWS Textract**
- Created a data pipeline that automatically perform image processing, unstructured data parsing and identity matching at speed of 100 entries/sec using **Airflow**, **AWS EC2**, **AWS S3**, **Python** and use vectorization for performance enhancement with **Numba** and **NumPy**.

PROGRAMMINGX | Organizer, Coinstructor Guangzhou, China | Jul 2020

- Organize a 7-day algorithm training camp with five TAs to help about 30 high school students prepare for USACO.
- Write lecture notes and coinstruct on data structures like binary index tree and segment tree.

PROJECTS

PERSONAL BLOG
A personal blog that post my own notes for papers and projects currently working on.

MAGC MAP Python, JavaScript, Flask
A collaborative non-linear online document. Won the third place in Hack CMU 2021 (a Hackathone event) project. We design a lock system and synchronous system that allow incremental update between clients. The document support markdown and LaTeX.

2048 SOLVER Python, Machine Learning
Using traditional algorithms (greedy algorithm) and machine learning methods (game-state searching and probablistic sampling), we try to build an agent that out-perform human on playing 2048 - a game that requires long-term logical planning, short-term greedy and includes random factor.

HIGHSCHOOL CS CLUB SITE HTML, CSS, JavaScript, AWS
A club site with computer science notes and related resources. Deployed using GitHub Action and AWS Global CDN.

HONORS & AWARDS

Computer Science: USACO Platinum Contestant, Canadian Computing Competition 154/3400+
Mathematics: High School Mathematicl Contest In Modeling Meritorious, AMC12 Top 5%
Physics: British Physics Olympiad, Top Gold (Top 2%)

SKILLS

Languages: Python, JavaScript, Java, SQL, React, Flask, HTML/CSS, Git, AWS, Linux, LaTeX
Machine Learning: PyTorch, NumPy, SimpleITK, Neural Network, Computer Vision, Reinforcement Learning