MA TAO

343.364.5768 taoma0606@gmail.com

EDUCATION

2017.09-2021.05

Queen's University
Bachelor of Computing (Hons.)
Specialization in Computer Science(Artificial Intelligence stream)

- **Honor:** 2017 Entrance Scholarship of Queen's University, 2020 Dean's Honour List
- **GRE:** Verbal 162, Quantitive 164, Analytic Writing 3.5
- **Computer Skills:** Python, C, Java, JavaFx, Javascript, PHP, Latex, HTML, SQL, CSS, Tensorflow, Scikit-learn, Jekyll, Markdown, Prolog, jQuery

PUBLICATION & PRESENTATION

2021.03

Zhang, J. & He, Y. & Ma. T. (2021) Ensemble Model for Comment Ranking, 2021 3rd International Conference on Natural Language Process (ICNLP 2021), Beijing, China, March 26-28, 2021, P1109-A.

2020.10

Chen, Z. F. & Ma, T. (2020). The Effect of COVID-19 on Chinese Stock Market. Frontiers in Economics and Management, 2020, 1, pp. 119 – 124.
DOI: 10.6981/FEM.202010_1 (10).0015

PROFESSIONAL EXPERIENCE

2020.09-2021.04

AI Modeling for Chat-text and Biometric Data Collection & Analytics for a Cloud-based Medical Advising Platform
Assistant, Big Data Analytics and Management (BAM) Laboratory

- Reviewed 10 papers about text summarization & natural language processing;
- Developed a framework through data exploration, processing, feature extraction, summarization (integration) and evaluation;
- Designed and implemented a SQL database of the chat that can be further used to make useful inquiries;
- Implemented coding to correct misspelled word in the original chat;
- Employed a multithreading crawler to make request to the Unified Medical Language System through its REST API;
- Used MetaMap, Apache Ctake and other tools to extract clinical medical text information from the chat;
- Expected a trained, ready-to-use framework for medical chat summarization.

2020.09-2020.12

A Deep Reinforcement-Learning Approach to Tackle the Game 2048
Group Research Project

- Designed the intelligent agent with Pytorch, including employed deep Q Learning (DQN) instead of normal, standard reinforcement method for the intelligence agent due to the consideration of training efficiency, and applied convolution layers in parallel fashion and concatenated them;
- Connected the agent with environment and simulated real time action;
- Implemented a simple graphical. Dynamic illustrations for the game play using Python tkinter.

2020.08-2020.09

Assessing the Funniness of Edited News Headlines
Group Research Project

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- Proposed a somewhat "Ensemble" method which incorporate two "weak" learning algorithms and one final "strong" algorithm;
- Built the CNN model with 3 convolutional layers with window sizes of 3, 4, 8;
- Applied method of Multi-Head attention as second and the head number are set to be 2 to reached a good result;
- Incorporated features learns by different classifier and used those feature in a final classifier;
- Achieved 70% accuracy on validation set.

2020.01-2020.04

Website for Animal Rescuing Organization
Group Research Project

- Designed the structure of the database and the front-end of the application;
- Built an application program with PHP to access the databased;
- Applied ER diagram to represent the designed structure for the database;
- Referenced Bootstrap framework for dealing with front-end matter of the application program;
- Achieved a database which monitors the whole chain of adoption including money flows, employees, locations and etc.

2019.09-2019.12

YOLO V3 for Object Detection
Research Project

- Developed a deep neural network which consists of 53 convolution layer and numbers of the dense layer named YOLO V3 for the sake of its efference;
- Undertook research to gather detailed information and implemented the model by using sub classing in TensorFlow Keras;
- Conducted feature extraction, and utilized pre-trained weights to train the network on a very small subset of the official COCO dataset (transfer learning).

2019.09-2019.12

Image Orientation Prediction Using Convolution Neural Network
Group Research Project

- Predicted the angle/degree of an image and treated it as a regression task;
- Found the proper dataset and applied the TensorFlow dataset for training;
- Conducted transfer learning on VGG-16 by using TensorFlow Keras in order to implement the model;
- Trained the model with VGG Face training dataset, and tested the model on the VGG Face 2 test dataset;
- Achieved a mean square loss on the VGG Face 2 test set lower than 50.

EXTRACURRICULAR ACTIVITIES

2020.09-2020.12

Queen's University
Teaching Assistant, CISC/CMPE 365: Algorithm I

- Served as an assistant for preparing teaching material & resource and tutoring students regularly in a variety of Algorithm topics;
- Organized and led review sessions for students before midterms & finals, and evaluated students' performance to provide appropriate feedback.