JINHAO PAN

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2311 Cornell Dr, College Station, TX, USA 77840

Student pursuing master's degree, seeking major-related full-time opportunity.

EDUCATION

Texas A&M University, College Station, USA   *August 2021 - December 2023 | GPA: 4.0/4.0*
Master of Science in Computer Science   Advisor: Dr. James Caverlee

Texas A&M University, College Station, USA   *August 2017 - May 2021 | GPA: 3.7/4.0*
Bachelor of Science in Computer Engineering

SKILLS & KNOWLEDGE

Skills: Python, C/C++, Java, Tensorflow, PyTorch, Scikit-Learn, Numpy, Pandas, AWS, SQL, GitHub.
Knowledge: Recommender System, Data Mining, Machine Learning, Artificial Intelligent, Data Visualization, Computer Vision, Data Structures and Algorithms, Computer Systems, Information Retrieval.

EXPERIENCES

Texas A&M University, College Station, USA   *August 2021 - Present*
Research, INFO Lab   *Recommender System*
Analyzing and Alleviating Bias Issues in Recommender System:
- Analyzed the exposure bias and algorithmic bias in Recommender System to achieve the fairness goal;
- Understood the popularity bias and mainstream bias issues in recommendation training results;
- Alleviated popularity bias and mainstream bias issues by targeting algorithmic bias;
- Inspired by Local Collaborative Autoencoder in Recommender System to train a model with subgroups.

PROJECTS

Mixture-Of-Experts Model for Recommender System   *Present*
https://github.com/JP-25/MOE_recsys
- Wrote a customized Mixture-Of-Experts(MOE) based on the LOCA to construct one global model;
- Implemented original Multi-Variational Autoencoder model as the kernel experts model;
- Developed the customized gating network with validation loss guided method;
- Calculated the final result of gating network outputs with different expert outputs;
- Achieved optimal final results as LOCA but only contained one training global model;
- Demonstrated that the model with the ability to alleviate popularity bias and mainstream bias.

Augmented Reality Training Development for a 3D Printer   *May 2021*
https://github.com/JP-25/Augmented-Reality-Training-Development-for-a-3D-Printer
- Used machine learning and augmented reality to design an application for the Microsoft HoloLens 2 to instruct the user, step by step, how to operate a 3D printer with no prior knowledge;
- Built 3D model animations via Blender and Unity with step-by-step instructions on using a 3D printer;
- Built Natural Language Processing with Unity MRTK by coding specific input voice commands in C# to transfer the printing settings (input voice message) to a text string and send it to HoloLens 2;
- Wrote Python to receive the message from HoloLens 2 NLP subsystem via User Datagram Protocol (UDP) and execute printing settings in the PreForm Software with the same IP address.

Machine Learning: Neural Network   *March 2020*
https://github.com/JP-25/OCR_MachineLearning
- Wrote Python from scratch to build layers: input layer, inner layers, loss layers, and output layers;
- Preprocessed data to divide by 255 to make the dataset only contain 0 and 1.
- Fed preprocessing data into the input layer by using forward transformation to each subsequent layer;
- Implemented backpropagation to update the weights and biases in hidden layers during training;
- Adjusted parameters to improve accuracy and trained the whole program to learn 26 English words.