Lin YuChao

linkruskal@gmail.com | 161250070@smail.nju.edu.cn
NanJing University
https://kruskallin.github.io

TIMELINE

NanJing University Sep 2016 - Jun 2020
Software Engineering B.S. Software Institute NanJing

- GPA: 4.45 / 5.0
- Honors/Awards: National Scholarship; People's Scholarship
- Toelf: 101(R27 L24 S22 W28). The total highest section score is 107.
- GRE: 329+3.5

Nanjing University Jul 2020
Research Assistant Prof. Yang Yu

PROJECT EXPERIENCE

Large-Scale Legal Instrument System Sep 2018 - Sep 2019
National Training Program (supervised by Prof. Jidong Ge) Backend Developer

A distributed legal instrument web system with the following functions: searching in millions of instruments; legal instrument recommendation. Source code private. My total works are three folds:

- Built regex tools and data pipeline with Spark for structured analysis of documents.
- Built the ElasticSearch component and the backend logical interface part, and integrating them with multiple data sources.
- Applied a K-mean-based algorithm to construct connections between law text vectors and recommend the documents in the same class of K-mean results.

Technologies: SpringBoot, (Java)Spark, ElasticSearch

Citi Cup Financial Competition Jul 2018 - Nov 2018
The Winning Prize (Top 20) Technical Team Leader

A campus-based lend-lease platform with automatic risk assessment and investment recommendations. Code repositories. Video demo. My total works are two folds:

- Built a full-stack web template with basic functions incl. token authentication, Swagger document generation, caching, server logging, etc.
- Built the main machine learning part by classifying students' consuming records using BiLSTM and assessing the credit scores of every student using Logistic Regression.

Technologies: SpringBoot(incl. Spring Security, Spring Cache, etc.), Vue, Flask, Pytorch

Miscellaneous Project

Web Template, P2P-Instance Messaging, many outsourcing projects, etc.

RESEARCH EXPERIENCE

Improving Efficiency of Distributed Samplers in RLlib Jun 2020 - Present
Independent Research Prof. Yang Yu

Improve CPU/GPU utilization of both synchronized and asynchronized samplers in the distributed RL system. Current work:

- Adaptively penalizing sampling rate in different workers for the asynchronized method.
- Adding stale threshold for the synchronized method.

Unsupervised Depth Estimation in Urban Road Dec 2019 - Nov 2020
Independent Research Prof.Yang Yu

Estimate monocular depth in the urban road using binocular images, and improve the performance by applying cost volume refinement and pyramid window-based image distance loss. code(submitted to 2021CVPR).

Simple Autocalibration Framework Jul 2019 - Dec 2019
Independent Research Prof. Yang Yu

Automatically obtain the extrinsic calibration parameters of a LiDAR sensor and a camera via an unsupervised depth estimator and heuristic optimization algorithm. Total works are three folds:

- Proposed a simple and effective framework that uses unsupervised depth estimators to predict depth maps and optimizes the distances between predicted depth maps and miscalibrated projected depth images.
- Proposed a LiDAR interpolation toolbox including inverse distance interpolation, total generalized variation interpolation etc.
- Applied heuristic algorithms, i.e. simulated annealing and Bayesian optimization, to optimize the result.

For further details please see code.

Miscellaneous

Lane Detector(Prof. Yang Yu), Road Segmentation(Prof. Yang Yu), NER Tagger(Prof. Xinyu Dai), etc.

SKILLS & OTHERS

- **Interests:** Pattern Recognition and Simulation, Deep Learning, Software System Developing
- **Work:** Teaching Assistant of Operating System Class, Assistant of Psychological center of Nanjing University