

JIREN LI

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EDUCATION

Northwestern University (NU)

Illinois, USA

Master of Science in Computer Engineering

Sept. 2021– Dec. 2022 (expected)

- Current GPA: 4.00 / 4.00

Southwest Jiaotong University (SWJTU)

Sichuan, China

Bachelor of Engineering in Electronic Information Engineering

Sept. 2017 – Jun. 2021

- Major Average Score: 90.44/100 | Ranking: 6/128

WORK EXPERIENCE

LAMIdata Corporation, Limited | Algorithm Intern

Sichuan, China

Grading System for Middle School Chemistry Experiment

Mar. 2021 – Jun. 2021

- Collected and annotated video data of chemistry experiment and trained a YOLO model to detect apparatuses
- Applied U-Net model, contour detection algorithm, corrosion algorithm and clustering algorithm to measure pH value in videos
- Utilized model output to complete the grading software and transplanted the software to recording devices with Redis database

RESEARCH EXPERIENCE

Chinese Research Institute of Land and Big Data | Service Outsourcing Project

Sichuan, China

Surveillance Video Detection of Safety Helmets | Instructor: Jin Huang

Dec. 2019 – Jul. 2020

- Matched with a company called Pactera as an algorithm engineer
- Utilized Faster RCNN to detect helmets and heads and recalculated scores of proposals in consecutive frames to boost accuracy
- Worked with software developers to integrate a software to inform supervisor of any people not wearing helmets

Chinese Research Institute of Land and Big Data | Student Research Training Program (SRTP)

Sichuan, China

Intelligent Image Recognition Technology for Land Use Type | Instructor: Jin Huang

Mar. 2019 – Apr. 2020

- Designed a semantic segmentation model based on U-Net for land usage classification in twelve categories
- Embedded the network in an encapsulated recognition software, which was applied in the 3rd National Land Survey

Southwest Jiaotong University Laboratory | Personalized Experimental Project

Sichuan, China

Railway Catenary Pillar Number Recognition | Instructor: Kejia Xu

Jun. 2018 – Mar. 2019

- Implemented LeNet-5 with NumPy to learn machine learning and CNN theory
- Utilized Faster RCNN based network to create an End-to-End model to recognize numbers on railway catenary pillars

COURSE PROJECTS

Optimization of MBGD Algorithm | Programming Massively Parallel Processors with CUDA, NU

Jan. 2022 – Present

- Implement and optimize Mini-Batch Gradient Descent with CUDA programming in C, adding two kinds of sample trimming

Explore Telco Customer Churn with Decision Tree | Machine Learning: FAA, NU

Sept. 2021 – Dec. 2021

- Used decision tree to predict the churn of telco customers and compared the performance of four ensemble learning methods

Analysis of Chicago Police Department Data | Special Topics in CS : Data Science Seminar, NU

Sept. 2021 – Dec. 2021

- Analyzed and visualized allegation data of CPD with Tableau, OpenRefine, ObservableHQ, Apache TinkerPop and Gephi

Video Fusion Method in Mixed Reality | Course Design for Information Processing, SWJTU

Sept. 2020 – Jan. 2021

- Captured video stream of a real table and projected it onto virtual table created with Unity3D to interact with users

PUBLICATIONS & PATENTS

- Jin Huang, Jiren Li, Jianwei Li, Jianbo Li, Zhihong Zhang, Siyuan Zhang, 2020. "A Land Use Type Recognition Method based on U-Net Neural Network" CN Patent CN202011236409.5

HONORS & AWARDS

- 1st Class Scholarship for Academic Excellence, SWJTU 2019 & 2018
- 2nd Class Prize in Sichuan Province, China Undergraduate Mathematical Contest in Modeling 2019

SKILLS

- **Programming Languages & Tools:** Linux, C/C++, Python, SQL, NumPy, OpenCV, TensorFlow, PyTorch