Suwen JIN

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https://shizukuyu.github.io/

Education

University College Dublin — Dublin, Ireland
Master of Science, Computer Science (120 ECTS) — *Sep 2022 - Jan 2024*
GPA: 3.5/4.2

Xiamen University Tan Kah Kee College — Xiamen, China
Bachelor of Engineering, Environmental Science and Engineering — *Sep 2018 - Jun 2022*
GPA: 3.4/4.0 (Ranking: 18/192)

University of Nottingham Ningbo China — Ningbo, China
Summer School: Digital Future — *Jun 2023*

Skills Summary

Experiences in Computer Science with focus on data analysis, machine learning, and web development projects.

- **Selected key courses:** *Machine Learning with Python, Cloud Computing, Data Mining etc.*
- **Programming Languages:** *Python, Java, Javascript, C, C++, R etc.*
- **Database Management:** *MySQL, PostgreSQL, Redis, MongoDB.*
- **Machine Learning:** *Scikit-learn, PyTorch, TensorFlow.*

Solid basic knowledge on Environmental Science and Engineering. Laboratory experience with a focus on Water Treatment and urban water quality measurement.

- **Selected key courses:** *Environmental Monitoring, Environmental Statistics, Fundamentals of Environmental Engineering, Reading and Drawing of Architecture Charts etc.*
- **Experimental skills:** *GC-MS, HPLC-MS, UV-Vis.*

General research skills.

- **Data Analysis:** *Origin, MATLAB, Google Analytics.*
- **Design Tools:** *LaTeX, Figma, Adobe Illustrator, AutoCAD.*

Projects

Traffic Prediction based on NYC Taxi Data using Machine Learning — Dublin, Ireland
University College Dublin — *Jun 2023 - Aug 2023*
Advisor: Prof. Gavin McArdle and Prof. Fatemeh Golpayegani

- Collected and preprocessed historical taxi data and weather data, optimizing data quality; Conducted feature engineering to extract multidimensional features like time, space, weather, and events as model inputs.
- Developed models using XGBoost and Random Forest to predict future taxi zone busyness level. Validated and optimized predictive model for New York City taxi zone congestion assessment.

Analyzing Climate Change Patterns using Time Series — Dublin, Ireland
University College Dublin — *May 2023*
Kaggle Project

- Selected appropriate artificial intelligence and deep learning models based on specific needs of the assessment project of Climate Change; Processed large-scale datasets using the Spark distributed computing framework.
- Utilized LSTM to successfully predict historical weather data temperatures; Improved model accuracy in future temperature predictions by tuning hyperparameters of the neural network.

Removal of NDMA from Water by UV-Advanced Oxidation Process — Xiamen, China
Xiamen University Tan Kah Kee College — *Jan 2021 - Apr 2022*
Advisor: Prof. Xiaosong Zha

- Effectively utilized UV/H_2O_2 and UV/PS to efficiently degrade N-nitrosodimethylamine (NDMA) in water; Optimized water treatment processes by adjusting parameters such as oxidant dosage, pH, dissolved oxygen etc.
- Conducted detailed analyses using High-Performance Liquid Chromatography (HPLC) to monitor and quantify reaction products.

Transformation of Chloride Ions in Electro-Oxidation Technology Shanghai, China
Fudan University, Tongji University *Jul 2021 - Sep 2021*
Advisor: Prof. Yan Liu and Ms. Chenxi Li

- Operated and maintained lab instruments(GC-MS,HPLC), analyzed pre-made Trichloromethane samples using mass spectrometry, and superimposed chromatograms of different samples to test the content changes.
- Made detailed observations and produced graphs based on the experimental findings.

UAV-based waterbody image catching and water quality measurement Xiamen, China
Key Laboratory of Estuary Estuarine Ecological Security and Environmental Health *Jan 2021- Mar 2021*
Advisor: Prof. Liang Zhou

- Corrected the distortion and blurriness of photos using Digital Orthophoto Map technology, resulting in enhanced image quality for further analysis.
- Demonstrated proficiency in data processing and analysis, facilitating the evaluation of water quality parameters for effective environmental monitoring and research.

Internship

GDS Holdings Ltd. Shanghai, China
Large Language Model Intern *Jan 2024 - Present*

- Use Retrieval-Augmented Generation (RAG) to equip large language models with domain knowledge and establish the company's local vertical database.
- Responsible for enhancing PDF structure recognition by rule-based approach PyPDF and deep learning-based approach ChatDOC PDF parser; Evaluate the impact of different methods on the answer quality of the RAG.

Genhouse Pharmceutical Co., Ltd Suzhou, China
Research & Development Intern *Jan 2022 - Apr 2022*

- Worked within the Lab information management system (LIMS) to document maintenance, repairs and calibration of equipment.
- Performed transformation experiments either for event generation or process improvement as planned by the team and document progress.

Publications

Xiaosong Zha, **Suwen Jin**, Qian Zhao, Peinan Huang, et al. Research on the removal of NDMA from water using ultraviolet-based advanced oxidation technology [J]. *Chinese Journal of Water Treatment Technology*, **2022** (In Chinese)

XiaoSong Zha, Lin Zhang, YuanJie Weng, ZhiLiang Feng, **Suwen Jin**. Reductive Degradation of N-Nitrosodimethylamine in Water by Ultraviolet Advanced Reduction Processes[J]. *Chinese Journal of Applied Chemistry*, **2022** (In Chinese)

Awards

Certificate of Completion *2024*
Shanghai AI Laboratory - InternLM Pratical Camp
Excellent Student Scholarship (awarded to the top 10% of the grade) *2018, 2019, 2020, 2021*
Xiamen University Tan Kah Kee College
Group Leader Award, Provincial level *2020*
National College Students' Innovative Entrepreneurial Training Plan Program
First Prize, Group leader *2019*
School Science Contest on Energy Saving Emission Reduction

Personal detail

Nationnality: Chinese
Gender: Female
Hobbies: Skateboarding, Playing the Guitar, Visiting Museums, and Art Exhibitions