

Zheng Ziyue

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EDUCATION

Xiamen University

Bachelor of Digital Media Technology

Kuala Lumpur

Sep 2017 - Aug 2021

- CGPA: 3.54/4.0 (Gain Merit Scholarship)
- C and C++ Programming(4.0), Data Structure(4.0), Computer Network(4.0), Artificial Intelligence(4.0), Computer Graphics(4.0), Operating System(4.0), Big Data(4.0)

RESEARCH EXPERIENCE

Backdoor Attack(Watermark) Deep Learning Model

Mar 2021 - Aug 2021

A study on Secure Federated Learning at the Oxford Hainan Blockchain Research Institute

- Implemented targeted backdoor attack and federated backdoor attack through *backdoors101* framework.
- Investigated how to watermark a dataset through pixel replacement or pattern overlay.

Population Prediction Model

Jul 2020 - Oct 2020

An assignment aiming to understand what causes changes in population in NUS AIML program

- Constructed a double logistic regression and multi-layer bayesian method to predict population of the Mainland China and Singapore.
- Achievement: Personally received distinct award and got the best team in final presentation(6/54)

Investigate Solution Approach of Pollution Routing Problem(Graduation Thesis)

Jul 2020 - Feb 2021

An operational research to investigate new solution approach of complex vehicle routing problems

- Implemented a linear programming method by Gurobi solver to solve pollution routing problem.
- Proposed a brand-new genetic hybrid variable neighborhood search(VNS) algorithm to tackle pollution routing problem.

A Scheme of HID Connection between Unity Engine and Switch Handle

Jul 2020 - Sep 2021

A research solution for motion-sensing game development in Unity Game Engine

- Designed and Implemented HID APIs for connecting Unity Engine and Switch handle Joy-Con
- Achievement: The patent of this scheme has passed the preliminary review by Patent Office

PROFESSIONAL EXPERIENCE

NLP Algorithm Engineer, China Mobile

Feb 2020 - May 2020

A subproject of constructing "English Chatbot" through Deep Semantic Structured Model

- Studied word processing techniques, such as word-hashing, word2vec, etc.
- Deployed and store DSSM model on server and constructed a framework that can train model with newly generated data.

Researcher in AI and Security, Oxford-hainan Blockchain Research Institute

Mar 2021 - Sep 2021

Multiple projects including distributed(as a service) system implementation and AI & Security Research

- Mainly responsible for investigating backdoor attack(watermark) deep learning model and data asset management.
- Participated in development of BaaS(Blockchain as a service) and blockchain explorer through tools of Docker, K8s and Prometheus.
- Implemented a visual scripting platform based on Antlr4ts, Remix-Project and Litegraph.

Research Assistant, Xiamen University Malaysia AI Department

Sep 2018 - Jun 2021

A set of chemical literature review projects based on Citespace

- Conducted a bibliometric visualization of by using Citespace and published a paper.

COMPETITION EXPERIENCE

Second Prize of China Undergraduate Mathematical Contest in Modeling[3.26%]

CSIAM

Taxi driver decision model based on Differential equation

Sep 2019

- Collected 40 billion taxi driver GPS data and 1046 flight information in Chengdu by using C++.
- Implemented a Web Crawler to collected data from an air traffic system through Python.
- Constructed a taxi driver's decision-making model by differential equation, Poisson distribution and verified it by data.

4th in Malaysia National Game of ACM-ICPC[4/36]

ICPC

Served as Originator and Team Leader of ICPC in XMUM

Mar 2019 - Nov 2019

- Won the 1st place in in-campus game.
- Entered South-East Asia Regional Competition and finally got 17th among 34 teams .
- Practiced over 300 questions(Dynamic Programming, Heuristic Algorithm, Advanced Data Structure) in various online judge platforms.

Outstanding Prize in AI+ College Students Innovation and Entrepreneurship Competition[3/333]

NCSAP

"Sixth-Sense" Plane Measurement Raman Instrument

Aug 2019

- Proposed an AI solution for processing Raman data recognition.

Golden Prize of China-Malaysia Youth Innovation and Entrepreneurship Competition

PILCChina

Programmer & Modeler

Oct 2019 - Nov 2019

PUBLICATION

- Paper Published: Yajing Huang, Choon Yian Haw, **Ziyue Zheng**, Junyong Kang, Jin-Cheng Zheng, Hui-Qiong Wang, Biosynthesis of Zinc Oxide Nanomaterials from Plant Extracts and Future Green Prospects: A Topical Review. *Adv. Sustainable Syst.* 2021, 5, 2000266.
- Paper(Working on): **Ziyue Zheng**, Qian Ren, Zhiqiang Yang, Chao Liu, Han Liu, Bangdao Chen, SAFERAND on Ethereum: A Framework for Detecting Predictability Bias of random number generator in smart contract
- Patent Application(Pending): **Ziyue Zheng** (2021) Terminal game development method, device, computer equipment and storage medium *C.N.112051989A*

MISCELLANEOUS

- **Programming & Framework:** Python(Pytorch, Tensorflow, Gurobipy), C++(OpenGL), GLSL, C#, Javascript(ReactJs, Litegraph), Antlr4, Unity Engine, Docker, K8s, Prometheus
- **Software:** VSCode, Sublime Text, Notion, Adobe PR, Blender, Unity Engine
- **Languages:** IELTS 7.0 ; GRE 320
- **Media:** CSDN(More than 100 blogs)