Youwei Huang

Home Page: www.devil.ren LLM Avatar: chat.devil.ren

Date of Birth: April 23, 1995

Place of Birth: Suzhou, Jiangsu, China

Professional Experience: 7 years with over 10 patents, 6 papers, and numerous projects **Business Address:** D1, 88 Jinji Lake Avenue, Suzhou Industrial Park, Suzhou, Jiangsu, China

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Academic History

Macau University of Science and Technology

Jan 2022 – Jan 2023 (Withdrawn)

Taipa, Macao SAR

Ph.D. Candidate

Research Focus: Software Engineering, Blockchain, Deep Learning

Monmouth University

Sep 2019 – Aug 2020

West Long Branch, NJ, USA

Master of Science in Software Engineering (ABET Accredited Program)

Research Focus: Software Engineering, Web Development, Blockchain

Changshu Institute of Technology

Sep 2013 – Jun 2018

Suzhou, Jiangsu, China

Bachelor of Engineering in Software Engineering

Included a one-year gap for entrepreneurship

Full-Time Experience

Institute of Intelligent Computing Technology, Suzhou, CAS (IICT)

May 2020 – Present

Local branch of the Institute of Computing Technology, Chinese Academy of Sciences

Suzhou Zhongke Lelian Information Technology Co., Ltd (Lelian)

Jan 2022 - Oct 2022

Subsidiary company established by IICT

Suzhou, Jiangsu, China

Title: Research Engineer & Team Lead at IICT; Project Manager at Lelian

Focus on AI and Blockchain research; Manage projects and lead teams at IICT

Transfer innovative technologies from the institute into subsidiary; Incubate and develop Lelian

Shanghai LeMiao Network Technology Company

Jun 2018 - Aug 2019

Shanghai, China

Title: Software Engineer

Developed web applications and games; implemented DevOps practices

For more about my work, please visit: www.devil.ren or ask my LLM: chat.devil.ren

Representative Projects

AI for SE Research - Web3 Software Engineering

Jan 2022 – Present

Macau University of Science and Technology Supervisor: <u>Associate Professor Tao Zhang</u>

This is a cross-disciplinary research project at the intersection of Software Engineering, AI, and Blockchain. Our research focuses on Web3 Software Engineering (Web3SE) with the aim of enhancing existing software engineering models, methods, and tools to better support the development of Web3 applications. We have introduced SmartIntentNN, a deep learning model designed to detect unsafe development intents in smart contracts. More details and resources are available on our GitHub, and the related paper "Deep Smart Contract Intent Detection" can be found on arXiv. Another achievement is SmartBERT, a pre-trained programming language model initialized with BERT/RoBERTa, which captures smart contract representations and is accessible on HuggingFace. Further research on Web3SE, e.g., developing a Smart Contract LLM, is underway.

Blockchain Project - Application of Blockchain in Medical Health

May 2021 - Oct 2023

Institute of Intelligent Computing Technology, Suzhou, CAS

Supervisor: Professor Xiaofang Zhao

We developed **LeChain**, a consortium blockchain designed for healthcare applications, creating a trustable network among hospitals, patients, insurance companies, and health committees. LeChain leverages blockchain's immutable and traceable features to enable secure and reliable proof of medical data exchange. In this project, my research focused on cross-chain solutions, smart contracts, and privacy computing, publishing five invention patents and one journal paper. I also authored several technical white papers. This project won the "2022 Jiangsu Province Blockchain Industry **Development Pilot Demonstration Project"** award and incubated a blockchain technology company: Suzhou Zhongke Lelian Information Technology Co., Ltd.

BigData Project - Precise Epidemic Prevention and Control

May 2020 – May 2021

Institute of Intelligent Computing Technology, Suzhou, CAS

Supervisor: Professor Peiheng Zhang

This is a project about utilizing big data in anti-epidemic engineering. I led our team in researching two key technologies. First, we used **GeoHash** to dynamically divide regions and quantify the health and safety metrics of both divided areas and individuals. Second, we utilized **generic wireless bases**, such as Bluetooth and WiFi, to build anonymous contact networks for tracing and analyzing virus transmission paths. Project success includes: 1. Supporting government CDC efforts during the COVID-19 pandemic; 2. Publishing the paper "**Precise Epidemic Control based on GeoHash**" at DSA2022; 3. Secured 4 invention patents, with 3 granted; 4. Being selected for the "**2021 Youth Talent Support Project of the Suzhou Association for Science and Technology**".

Selected Patents

A Model Approach for Representing Smart Contracts

Youwei Huang, Xiaofang Zhao - CN118821849A (Open for inspection)

A Method and System for Analyzing Population and Venue Features based on Generic Wireless Bases

Youwei Huang, Peiheng Zhang, Xiaofang Zhao, Hongjie Wang, Long Xu - CN117709505A (Open for inspection)

A Method for Medium and Long-Range Epidemic Monitoring and Safety Index Quantification

Youwei Huang, Ze Zhou, Feng Lu, Huijuan Zhang, Peiheng Zhang - CN112037924B (Granted)

Contact Tracing Method for Constructing the Time-sequenced Directed Graph Based on Generic Bases

Youwei Huang, Peiheng Zhang, Liuyi Zhang, Mengli Dang - CN113163336B (Granted)

Method for Constructing a Short-Range Epidemic Transmission Network Based on Bluetooth Scanning

Peiheng Zhang, Youwei Huang, Liuyi Zhang, Liyuan Liang, Feng Lu, Maolei Huang - CN112203229B (Granted)

Selected Publications

Deep Smart Contract Intent Detection

Youwei Huang, Sen Fang, Jianwen Li, Jiachun Tao, Bin Hu, Tao Zhang

Accepted by IEEE International Conference on Software Analysis, Evolution, and Reengineering (SANER 2025)

A Chain Division-based Vertical Scalability Method of Hyperledger Fabric

Bin Hu, Youwei Huang, Xiaolong Sang

Accepted by Chinese High Technology Letters, 2025

Precise Epidemic Control based on GeoHash

Youwei Huang, Feng Lu, Xiaolong Sang, Bin Hu, Jiachun Tao

IEEE 9th International Conference on Dependable Systems and Their Applications (DSA2022), Page 1040-1048

Selected Awards & Certificates

AIAC AI Excellence Award - 2024 Outstanding Individual in Artificial Intelligence

Individual Award from Organizing Committee of Artificial Intelligence Application Conference (AIAC), Sep 2024

Intermediate Professional Technical Qualification Certificate - Engineer at IICT (eq. to Assistant Professor)

Individual Certificate from Suzhou Municipal Bureau of Human Resources and Social Security, Aug 2024

2022 Jiangsu Province Blockchain Industry Development Pilot Demonstration Project

Team Award from Industry and Information Technology Department of Jiangsu Province, Aug 2022

2021 Youth Talent Support Project of the Suzhou Association for Science and Technology

Individual Award from Suzhou Association for Science and Technology, Dec 2021

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