

Shangjie (Henry) Zheng

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OBJECTIVE

I am a passionate software developer focused on delivering reliable and innovative software systems solutions, driven to tackle complex challenges by approaching problems holistically - from model-based design to software development. I aim to leverage my skills in dynamic tech industry, driving progress and embracing new challenges.

EDUCATION

Southern Methodist University (SMU)	May 2024
<i>Master of Science in Computer Science</i>	GPA: 3.97/4.00
University of Missouri-Kansas City (UMKC)	May 2021
<i>Bachelor of Science in Mechanical Engineering</i>	GPA: 3.52/4.00

PROFESSIONAL EXPERIENCE

Lion Energy LLC.	Jul 2024 – Present
<i>Software Intern, Control Systems Embedded C, MATLAB, Simulink, MCU, CAN</i>	American Fork, UT

- Collaborated in the development and research of embedded software for Battery Management System (BMS).
- Reviewed and evaluated the existing BMS firmware program in “C” and Simulink model, refining algorithms for cell balancing, SoC and SoH estimation. Resolved software defects identified during the process, enhancing system functionality and accuracy.
- Developed and implemented robust control algorithm for the BMS fault detection layer, safeguarding reliable signal processing and validation against hardware thresholds, achieving significant improvements in the HAL’s reliability.
- Led embedded BMS software/model validation, creating automated test cases for the Controller Area Network (CAN) conforming J1939 standard using CANalyzer, J-Link debugger, ensuring BMS configurability and communication integrity.

Southern Methodist University	Aug 2023 - Present
<i>Graduate Research Assistant Python, GPT, Gemini, Keras, spaCy</i>	Dallas, TX

- Developed and refined a machine learning toolset aiming to translate tax domain-specific knowledge into code-like representations using LLMs and machine learning techniques, enabling more efficient automation and decision-making.
- Fine-tuning GPT and Gemini LLMs with pre-annotated tax documents by classifying contexts into (non-)environmental variables, leveraging Keras, spaCy libraries to develop a specialized classifier that accurately interprets domain-specific language.
- Implemented programs to automate the data collection and sanitization, populate datasets, and validate raw data sources from the internet by checking HTTP status codes, effectively streamlining the workflow and ensuring data accuracy before annotation.
- Advancing model development to accurately translate natural language into logical form through ongoing optimization efforts.

Fuyao Glass Illinois Inc.	Jun 2021 – Jun 2022
<i>Mechanical Engineer Project Management, Quality Assurance, Computer-Aided Design</i>	Decatur, IL

- Demonstrated comprehensive skills while working across Fabrication, Quality Control, and Engineering departments.
- Improved process reliability through production monitoring, downtime analysis, and implementing QC strategies.

SELECTED PROJECTS

TA Management System	Fall 2023
<i>Southern Methodist University TypeScript, React, Node.js, MySQL, Jest, GitHub</i>	Dallas, TX

- Developed a dynamic full-stack TA Management System for the Engineering school at SMU to support 1,000+ potential users.
- Implemented a reactive web front-end using React, integrated with TS-based Node.js back-end, and MySQL database system.
- Managed Git version control, ensured program met coding standards, co-reviewed PRs and merged approved submissions.
- Drove development in a Scrum team, overseeing development cycle from requirements analysis to application deployment.

Quadcopter Control System	Fall 2020
<i>University of Missouri-Kansas City Python, Auto pHAT, Raspberry Pi</i>	Kansas City, MO

- Designed and assessed multi-input, multi-output feedback control system, ensuring dynamic responsiveness.
- Integrated measurement data into software-based embedded system, implementing PID controller algorithm.
- Programmed Raspberry Pi and Auto pHAT to control quadcopter, enabling precise roll/pitch actions via remote input.

PROFESSIONAL SKILLS

- **Programming Languages:** Java, Python, C++, Embedded C, SQL, JavaScript, TypeScript, MATLAB, HTML, CSS
- **Database and Storage Solutions:** MySQL, PostgreSQL, SQLite, MongoDB, Redis, Amazon S3
- **Frameworks and Platform:** Spring Boot, Django, React, Node.JS, Express, Amazon Web Services
- **Development Libraries/Tools:** spaCy, NLTK, Docker, Postman, Git/GitHub, Simulink, CANalyzer, J-Link Debugger