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
Master of Science in Computer Science GPA: 3.97/4.00

University of Missouri-Kansas City (UMKC) ····· May 2021
Bachelor of Science in Mechanical Engineering GPA: 3.52/4.00

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

PROFESSIONAL EXPERIENCE

Lion Energy LLC. ····· Jul 2024 – Present
Software Intern, Control Systems | Embedded C, MATLAB, Simulink, MCU, CAN 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 ····· Fall 2023 - Present
Graduate Research Assistant | Python, GPT, Gemini, Keras, spaCy Dallas, TX

- Developed and refined a machine learning software toolset for processing, analyzing legal context.
- Fine-tuning GPT, Gemini models to develop specialized classifier using open-source ML libraries (Keras, spaCy).
- Achieving final model capable of translating natural language into logical form, following extensive optimization.

Fuyao Glass Illinois Inc. ····· Jun 2021 – Jun 2022
Mechanical Engineer | Project Management, Quality Assurance, Computer-Aided Design 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.

Fuyao Glass Illinois Inc. ····· Summer, 2018/2019/2020
Engineering Intern | Manufacturing Process, Computer-Aided Design, Engineering Assistance Decatur, IL

- Gained expertise and understanding in manufacturing process and the operation strategies adopted by the company.
- Supported project progress with research and 2/3D AutoCAD designs, enhancing cross-department collaboration.

SELECTED PROJECTS

Southern Methodist University ····· Fall 2023
TA Management System | TypeScript, React, Node.js, MySQL, Jest, GitHub 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.

University of Missouri-Kansas City ····· Fall 2020
Quadcopter Control System | Python, Auto pHAT, Raspberry Pi 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.