



Zhichao SUN

Software Engine / Frontend Developer



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Singapore



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SKILLS

Modern Javascript

ReactJS

HTML

CSS/SCSS

Styled Components

Git

Docker

Figma/Webflow

Ubuntu

LANGUAGES

Chinese

Native or Bilingual Proficiency

English

Professional Working Proficiency

INTERESTS

Photographing

WORK EXPERIENCE

Research Engineer II ERI@N Multi-Energy Systems and Grids

06/2020 - Present

Singapore

ERI@N stands for Energy Research Institute @NTU

- Cooperated with 1 team member to refactor legacy of an internal micro-grid operating system into an electricity trading advisory platform by using HTML, CSS, ReactJS and Redux for the front end development and Java Spring Boot as the backend framework.
- Led system integration of connecting SCADA (supervisory control and data acquisition) systems running over MQTT protocol located on 4 different sites to a cloud-based distributed energy management platform by establishing communication through gateways and IKEv2 IPSec tunnel.

Research Associate ERI@N Fuel Cell Lab

08/2016 - 07/2020

Singapore

- Cooperated with 1 team member to develop and support a SCADA system of a fuel cell and electrolyzer hybrid system by using HTML, CSS and ReactJS for the front end development and Node and Express for the backend development.
- Programmed and debugged several sets of control programs written in C/C++ and had them flashed into the PCBs which were integrated into different systems to enable direct control and data acquisition on the components.
- Designed, implemented, and integrated electronic control systems of a 5kW fuel cell experimental platform, a 10kW fuel cell + a 6kW electrolyzer hybrid system, and a 100W portable hydrogen on-demand fuel cell system to enable robust control and to meet safety standards.
- Designed and assemble a branch of PCBs (printed circuit boards) for a team of 3 hydrogen energy scientists to facilitate their fundamental studies and project delivery.

EDUCATION

Master's Degree - Electrical Engineering Southwest Jiaotong University, China

09/2014 - 06/2017

China

Thesis

- Summarised details and technology of how to design, simulate and build an autonomous transporter into a thesis: AN INDOOR WHEELED AUTONOMOUS TRANSPORTER SOLUTION BASED ON ROS and passed final thesis defense.

Exchange Program Robotics & Automation Centre, Temasek Polytechnic, Singapore

08/2015 - 07/2016

Singapore

Project - Autonomous transporter

- Debugged a branch of control programs (also known as the node in the Robot Operating System) written in C++ of a self-navigating transport robot to improve the stability during the running of the robot.
- Designed and implemented workflow of the robot like navigating itself to the charge station when reaching a preset threshold, docking itself to the charging pile and automatically executing the charging procedure when idling for a preset period.
- Refactored a lightweight web GUI running in browser of mobile devices using HTML, CSS and pure javascript to enable functions like streaming real-time navigation video and setting robot's motion path and destination on the phone.