

# JACK QIN

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🌐 yang-jie-qin

US Citizen | Eagle Scout

## Education

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### University of California, San Diego

January 2023 – December 2024

*B.S. Electrical and Computer Engineering | Machine Learning and Data Science Depth*

*San Diego, CA*

- Relevant Coursework: Safety in Autonomous Systems, Mobile Health Design, SLAM, Deep Learning

### University of California, San Diego

September 2019 – December 2022

*B.S. Electrical Engineering | Machine Learning and Controls Depth | Physics Minor*

*San Diego, CA*

- Relevant Coursework: Autonomous Vehicles, Predictive Modeling, Pattern Recognition, Rapid Software Design

## Work Experience

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### Embedded Works

February 2025 - Present

*QA and Support Engineer*

*Santa Clara, CA*

- Provided frontline technical support for 20+ IoT hardware devices, including modules, routers, and gateways, through functionality testing, user suitability assessments, and developing application demos to accelerate customer adoption
- Executed end-to-end support for the Jumpbox Network Device Manager, including provisioning and testing for customer deployments, and implemented the solution internally to centralize remote access for all lab devices
- Conducted validation tests on the Murata 1SC module over satellite NTN, troubleshooting signal connection issues, configuring GPS/APN parameters, and verifying connectivity via UDP packet reception on cloud endpoints

### National Collegiate Table Tennis Association

July 2025 - September 2025

*Software Engineer Intern*

*Santa Clara, CA*

- Designed and implemented a full-stack player-user linking system enabling secure connections across 2500+ user accounts, featuring secure email verification, tokenized confirmation, and persistence via relational database
- Developed a modular frontend system with 6+ dynamic filters, conditional button states, and RWD optimizations to support scalable search functionality across devices
- Implemented robust backend guardrails with multi-layered validations (user role, verification, school membership, link status) and spam prevention measures to ensure only eligible users could initiate link requests
- Created a secure internal API endpoint for retrieving player records with multi-field filtering, conditional query chaining, and relational joins to derive player link status

### Techniche

June 2023 – September 2023

*Data Science Intern*

*San Diego, CA*

- Analyzed EV charger repair, maintenance, and downtime data to model breakdown probabilities and automate maintenance workflows, improving operational efficiency
- Applied time-series predictive modeling techniques to forecast equipment failures and reduce factory downtime

## Projects

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### Musk2Cash | Machine Learning and Data Science

Winter 2022

- Trained LSTM models to predict stock prices for the next 3 days given past 5 days of stock data and tweet sentiment
- Cleaned data from Twitter API and classified each of Elon Musk's tweets based on topic using carefully chosen keywords
- Applied sentiment analysis on each of the relevant tweets from the past 2 years

### TwistAR | Rapid Hardware and Software Design

Fall 2021

- Led a team in developing an augmented reality Twister game that is powered by computer vision and embedded wearable controllers to support interactive, screen-free gameplay
- Designed and assembled an Arduino-based wearable with an I2C-connected OLED display, onboard IMU, and 4 RGB LED indicators to provide real-time player feedback
- Implemented the Bluetooth communication protocol between the wearable and a Python game engine to transmit sensor data and receive limb-specific game state updates

## Skills

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**Programming Languages:** Python, C, C++, Java, MATLAB, SQL, JavaScript, C#, HTML, CSS, Assembly

**Frameworks & Libraries:** Pandas, NumPy, OpenCV, Matplotlib, Seaborn, Scikit-Learn, Keras, TensorFlow, SciPy, Statsmodels, PyTorch, PySerial, MediaPipe, Protocol Buffers, NLTK, MVC, OOP

**Tools & Platforms:** Git/GitHub, ROS, Docker, Kubernetes, MongoDB, Arduino IDE, LaTeX, Tera Term, RabbitMQ, Jira

**Software:** LTSpice, Mathematica, Xilinx Vivado, SystemVerilog, Multisim, Audacity, EAGLE, ModelSim, Microsoft Office

**Spoken Languages:** English (native), Cantonese (native), Mandarin (fluent)

**Referrals: Provided Upon Request**