# Shelby Racca

**Richmond, TX 77406 | (832) 472-3457 | sljriii@gmail.com | LinkedIn**


## RADIO SYSTEMS ENGINEER

### Solution Design & Implementation | Communication System Deployment | Project Management

Highly organized, detail-oriented graduate with degree focus in electronics and communications. Proven expertise in IoT, robotics, and DSP, supported by industry-specific research and hands-on project leadership. Strong background in project engineering, customer support, and system testing. Experienced manager of high-stakes engineering projects with proven results improving technical processes.

**Core Competencies & Technical Skills:**

Radio Systems Design • Communication Principles • Pathloss • Team Leadership • Data Science • Mathematics
Technical Documentation • Cross-Functional Collaboration • Programming • Machine Learning • Neural Networks

## EDUCATION

**Bachelor of Science, Electrical Engineering; Electrical, Electronics, & Communications,** University of Texas at Tyler, 2024
**Associate of Science, Engineering Science,** Houston Community College, 2022

### ROBOTICS & IoT ELECTIVES

- Conducted industry-wide literature surveys and authored research papers on IoT, integrating sensors with Arduino controller for remote monitoring of oral health in at-risk patients.
- Completed high-level graduate courses in robotics, IoT, and DSP random processes, earning certificates and gaining advanced knowledge in signal processing and sensor integration.

### ENGINEERING COMPETITIONS

- Led and coordinated team efforts in UT Annual Ratliff Relays, resulting in first-place finish for electrical engineers and second place overall, demonstrating strong leadership and technical skills.
- Contributed to programming and hardware integration for drone-car system, showcasing expertise in electrical and mechanical engineering challenges.

### SENIOR DESIGN PROJECT

- Led integration of multidisciplinary structural health monitoring project, utilizing DSP, machine learning, and IoT technologies across multiple universities.
- Optimized machine learning algorithm from 6% to 90% accuracy using Edge Impulse AI model development tools, significantly improving classification and regression testing.
- Presented project at UT Engineering Expo and CTURC, demonstrating real-time structural stability analysis and earning commendation from faculty mentors.

## CREDENTIALS

Edge AI Certification

## EXTRACURRICULAR

2024 Capital of Texas Undergraduate Research Conference (CTURC) Presenter
2022 & 2023 UT Ratliff Relay Robotics Competition (1st place finalist, 2nd place overall)
2023 IEEE Metrocon Presenter | 2023 IIOT World Energy Day Attendee | 2022 APCO Attendee

*… continued*

## PROFESSIONAL EXPERIENCE

Microwave Networks, Stafford, TX **2024 – Present**

**PROJECT ENGINEER**

Manage post-sales engineering projects and reengineer to align with customer requirements, including major 100+ hop system in Kern County. Prepare detailed documentation, conduct site surveys, and support program managers on regional projects.

- Prepared comprehensive documentation packages such as equipment lists, block and level diagrams, wire lists, rack profiles, and as-built drawings, ensuring ISO9001 compliance.
- Assisted survey team remotely with critical point analysis, flyovers, and site surveys, enhancing project efficiency and accuracy.

Microwave Networks, Stafford, TX **2023 – 2024**

**SA&V ENGINEER**

Redesigned validation and testing protocols to comply with FCC and ETSI regulations. Demonstrated meticulous attention to detail in transceiver testing, software engineering, and process improvement for next-generation communication technologies.

- Tested and validated 2 different platforms of transceivers, contributing to release of 5 new modem catalogs to fix software configuration errors and enhance product performance.
- Oversaw and corrected software configuration errors in radio systems, increasing involvement in software engineering aspects of projects to ensure seamless integration and functionality.

Microwave Networks, Stafford, TX **2021 – 2023**

**SYSTEM ENGINEER**

Directed multiple high-visibility projects for Western US and independently drove workflows and design processes. Prepared proposals, conducted path engineering, and provided comprehensive customer support for valuable communication systems.

- Oversaw up to 6 simultaneous projects, including 50+ standard systems and several large-scale projects, some exceeding million-dollar budgets, ensuring adherence to Motorola standards and mission objectives.
- Conducted path engineering for 25+ projects across various counties and organizations, delivering precise and efficient solutions for complex communication needs.
- Prepared detailed quotes and proposals, supported regional management, and served as solo customer support coordinator, enhancing client satisfaction and project success.

Microwave Networks, Stafford, TX **2020 – 2021**

**CUSTOMER SUPPORT COORDINATOR**

Delivered exceptional customer service in management of warranty and LSS packages, providing first-level IT support, and handling technical issues. Executed troubleshooting, renewal tracking, and order organization, contributing to customer satisfaction and operational efficiency.

- Coordinated ongoing warranty and LSS packages, tracked renewals, and sent reminders for expired warranties, ensuring seamless customer support and service continuity.
- Provided first-level IT support, assisting with outages and configuration issues, and handled complex customer calls, demonstrating strong problem-solving and communication skills.

Microwave Networks, Stafford, TX **2020 – 2020**

**SYSTEM TEST TECHNICIAN**

Navigated modern telecom processes and product configurations with strong foundation in manufacturing, integration, testing, and troubleshooting of telecom and radio engineering products.

- Facilitated preliminary testing of radio systems and configured them to meet customer specifications, ensuring high-quality product delivery.
- Demonstrated adaptability and leadership in maintaining workflow and logistics during assignment to manage shipping operations.