Jason Blackert

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- Experienced embedded software engineer with over 5 years in IoT software engineering within startup environments.
- Proficient in using Docker containers to create Debian packages, utilizing Ansible to orchestrate and deploy updates to hundreds of nodes.
- Skilled in training TensorFlow models to identify optimal lines of fit within RF and energy-demand environments.
- Experienced in system-level board development, navigating communication protocols for seamless integration and optimal functionality.

PROFESSIONAL EXPERIENCE

Escamilla & Poneck LLP **September 2023 – Present**

Senior Embedded Software Engineer – September 2023 - Present

- Spearheaded the digitalization of confidential client data onto encrypted Linux servers utilizing C/C++ and on embedded systems, reducing office paperwork by 90%.
- Architected web framework for seamless data access, improving remote accessibility and cutting response time by 30%.
- Introduced local access via mounted network drive, improving retrieval speed by 25% saving on average 15 hours per week for employees.

Yotta Energy Co. **October 2022 – August 2023**

IoT Software Engineer – October 2022 – August 2023

- Engineered an innovative IoT gateway supporting MQTT communication for solar energy storage systems, increasing effectiveness by 25% through tokenized acknowledgements in Python and embedded C.
- Successfully initialized cellular modem connection, reduced dropouts by 90%, and ensured uninterrupted connectivity for critical operations.
- Implemented Modbus RTU to enhance accuracy in reading revenue-grade power meter data. Expanded functionality with Modbus TCP integration for modeling software, enabling peak shaving, time-of-use arbitrage, and demand-discharge, resulting in a 30% performance improvement.

Tactual Labs Co. **June 2019 – September 2022**

Design Engineer – January 2020 – September 2022

- Leveraged USART and CAN communication for real-time 2-D visualization of femtofarad-level sensing technology, facilitating hardware analysis, and improving decision-making process.
- Developed bootloader to validate FOTA packages, safeguarding firmware updates with backup protection to ensure 100% reliability, thus minimizing system downtime.
- Ported sensing classifiers from Python to embedded C and Python to C++, and improved confidence rate from 95.0% to 99.9% in a high precision sensing system.

Electrical Engineer – August 2019 – December 2019

- Integrated PyQt5 application with regression tester for image analysis, confirmed high repeatability in sensing algorithms on a real-time operating system (RTOS).
- Adapted Unity Engine for CES Demo, highlighting gesture classification engine for Automotive applications, fostered engagement with automatic autopilot simulation, enhancing user understanding and product visibility.

Electrical Engineer Intern – June 2019 – August 2019

- Created automated regression testing solution with RoboDK, streamlining testing processes and improving efficiency by 35%.

EDUCATION

Texas State University **August 2015 – December 2019**

Bachelor of Science in Electrical Engineering, Computer Engineering

Undergraduate Researcher – January 2018 – August 2019

- Enhanced sound localization techniques utilizing impulse localization in an FPGA environment and designed convolution neural network models to accelerate processing time by 5%; analysis presented in MATLAB.

TECHNOLOGY & TOOLS

Languages:
Python | Embedded C | C++ | JavaScript

Databases:
MongoDB | InfluxDB | RedisDB | MySQL | NoSQL

Frameworks:
Debian | AWS IoT | Ansible | Poetry | Pandas | Matplotlib | Django | OpenCV | TensorFlow | PyQt | Qt | RoboDK

Communication Protocols:
MQTT | GSM/LTE | BLE | TCP | UDP | UART/USART | CAN bus | Modbus RTU/TCP (RS-485)

Chipsets / Frameworks:
CM4 | SimCom 7600 | ARM M7 | Atmel V71 | Atmel E51