Joey Squillaci

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EXPERIENCE

Lead System Engineer

International Motors January 2024 - Present, Lisle, IL

- Abide by SAE and J1939 standards to establish and maintain CANbus networks between modules in legacy vehicles
- Review supplier product specifications and internal documentation to tabulate J1939 signals, messages, and their related parameters for implementation
- Utilize tools in the Vector Suite such as canDB++ to create and modify .dbc files to be used to develop signals and messages in software
- Investigate and analyze CAN bus traffic using CANoe/CANalyzer
- Member of the Society of Automotive Engineers (SAE) Processing Group to maintain and append to the J1939 Digital Annex

Software/Electrical Engineering Intern

Inventus Power May 2023 - August 2023, Woodridge, IL

- Use of python and embedded C to create command line programs and mock microcontrollers for military battery management systems
- High level of electrical systems comprehension to understand the architecture behind battery management systems and testing
- Troubleshoot and diagnose faulty components and battery packs on the production floor
- Use of Arduino and CAN/CANbus implementation to frontend program(s) that allowed hardware to communicate over serial (USB, RS232, UART, CAN, I2C) and gather sensor data
- Developed recursive algorithm used for dynamically splicing streams of hex data transmitted over serial

Product Specialist

Apple August 2019 - January 2024, Naperville, IL

- Provide personalized customer solutions while adhering to Apple S.O.S.
- Troubleshoot and diagnose iOS devices, Apple TV, Apple Watch and their accompanying software when necessary
- Point of contact and resource for peers with troubleshooting needs
- Combines strong communication and technical skills to best analyze and solve problems

PROJECTS

16-Bit Carry Select Adder

VLSI Design, Purdue University August 2025 - December 2025

- Designed, implemented, and validated a custom 16-bit carry-select adder using CMOS transistor-level logic in Cadence Virtuoso
- Met performance constraints (<2 ns max delay, <700 fJ energy consumption) through architectural optimization and transistor-level sizing
- Constructed logic gates, adders, and multiplexers to simulate and develop the system; finalized with the testing and validation of the pre-layout schematic and post-layout simulation incorporating multi-layer metal-interconnects and vias

Military BCDS Project

Inventus Power May 2023 - August 2023, Woodridge, IL

- Developed a command line application that simulates data transmission both in software and hardware from a sending and receiving module over serial communication
- Gathers sensor data in real time from a battery management system using python, embedded C, arduino, and serial communication (USB, RS232, UART, I2C)
- End user utilizes the app to monitor the status of batteries in a battery management system on naval vehicles (e.g. submarines)
- Extensive documentation including tools such as Visio, Git, Jira, and Doxygen

EDUCATION

Purdue University

Master of Science, Electrical and Computer Engineering June 2024 - May 2026

University of Illinois at Chicago

Bachelor of Science, Computer Engineering — College of Engineering June 2019 - December 2023

SKILLS & RELEVANT LINKS

Languages: Python, Embedded C, C++, HTML/CSS

Embedded Systems/Serial Communication: MIPS, ARM, USB, RS232, UART, Arduino, Raspberry Pi

Other: Autodesk Inventor, SolidWorks, Jira, Crucible, Teams, Tempo, Visio, Doxygen, Git, canDB++, Agile, CANoe, CANalyzer, Vector Suite

GitHub: https://github.com/joeysquillaci

LinkedIn: https://www.linkedin.com/in/joey-squillaci-4795891a3/