# JARED MAHOTIERE

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## SUMMARY

Embedded systems and firmware engineer with ESP32/FreeRTOS, C, UART/I2C, DSP, and industrial controls from two Nucor internships, plus open-source contributor experience.

## EDUCATION

**Purdue University** - B.S. Electrical Engineering Technology (Computer Engineering Technology)
Minor: Computer & IT | Certificate: Entrepreneurship & Innovation | Expected May 2026

**Relevant Coursework:** Embedded Digital Systems, Advanced Embedded Digital Systems (in progress), DSP, Advanced DSP, Industrial Controls, DAQ, Wireless Communications, Electronic Prototype Development, Concurrent Digital Systems

## LEADERSHIP & ORGANIZATIONS

**Delta Tau Delta (Campus Chapter):** DEI Chair | **National Society of Black Engineers (NSBE):** Member

## SKILLS

C, C++, C#, Python | ESP32, FreeRTOS, Arduino, I2C, SPI, UART, ADC, PWM, DMA | DSP, PID control, wireless communication | Docker, GitHub Actions, CI | .NET, SQL Server

## EXPERIENCE

**Nucor Corporation - Software/Automation Engineering Intern | Darlington, SC | May-Aug 2024 and May-Aug 2025**

- Led system integration projects: scoped, specified, and coordinated implementation of new automation systems, ensuring seamless startup, cross-team adoption, and operational reliability.
- Executed controls-focused startup validation, signal-path troubleshooting, and sensor/actuator commissioning with operators and maintenance teams to de-risk automation cutovers.
- Collaborated with production teams and led project meetings; conducted comprehensive testing and validation with multi-disciplinary stakeholders while prioritizing deliverables and shipping on time with high safety and quality standards.
- Managed and analyzed production data in SQL Server/QMOS databases; developed optimized queries and recommended new tables/columns to support process improvement.

## PROJECTS

**Telemetry Node - ESP32, FreeRTOS, C, Python**

- Built fixed-rate firmware telemetry with binary UART framing, CRC checks, sensor sampling, and host-side decode tooling.

**cachekit - C (C11), POSIX**

- Implemented a Redis-like cache server with RESP parsing, TCP event loop, TTL expiration, and persistent snapshot support.

## OPEN SOURCE CONTRIBUTIONS

- PicoClaw (Go): merged PRs include provider protocol-family refactor (#213) and device-code auth interval fix (#56); security/reliability follow-up PRs remain open (#211, #251).
- Open PRs: Databricks CLI (#4504) auth-resolution fix; Google langextract (#359) cache-key hashing fix.