

# Nicholas Loehrke

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## Education

### University of Wisconsin-Platteville

Electrical Engineering BS, Computer Science Minor

GPA 3.8

Platteville, WI

2021–Present (expected May 2025)

## Experience

### Electrical Engineering Intern

Waupaca Foundry, Research & Development

Summer 2022 & 2023, Winter 2024

Developed GUI's for interfacing with industrial cameras and PLC's using C#, C++, Qt, Dear ImGui, and OpenCV. Multithreading was used when interfacing with TCP/IP camera streams.

Waupaca, WI

### Campus-Sponsored Peer Tutor

University of Wisconsin-Platteville

Fall 2022–Present

Providing one-on-one peer tutoring in electrical engineering, programming, physics, and math classes as an official campus-sponsored position. Employed by the university with oversight from a designated supervisor. Accommodated hundreds of appointments to date, assisting students in achieving academic success.

Platteville, WI

## Research

### Undergraduate Researcher

University of Wisconsin-Platteville

Platteville, WI

Spring 2023–Present

Leading the development of an ultra-wideband-based multilateration system for automated livestock rotational grazing as the sole researcher on the project. Responsible for the entire project lifecycle, including conceptualization, design, implementation, testing, and analysis. Utilizing Nordic's nRF52 SoC's and Qorvo's (formerly DecaWave's) DW1000 ultra-wideband chipset for hardware development and programming with the Zephyr RTOS for software implementation. Collaborating with faculty advisors for guidance and feedback.

## Skills

**Programming Languages:** Arm Assembly, C, C#, C++, Java, Python

**Software Skills:** Dear ImGui, Eagle, Fusion 360, Git, IntelliJ, Inventor, KiCad, LibreOffice, Microsoft Office, OpenCV, Pycharm, Qt, Visual Studio

**Hardware Skills:** Arduino, Nordic nRF52, Raspberry Pi

**Operating Systems:** Linux, Windows, Zephyr RTOS

**Soldering:** Experienced in hand soldering and reflow methods; SMT/SMD & THT

## Involvement

Pioneer Artificial Intelligence Club

treasurer

Pioneer Drone Club

member

Holiday Toy Hack