

# Dane Wika

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## EDUCATION

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### South Dakota State University

Graduating Fall 2025

*B.S.E. in Computer Science and Engineering*

*GPA 3.5*

- **Coursework:** Micro Controllers, Algorithms, Compilers, Computer Architecture, Operating Systems
- **Extracurriculars:** Association for Computing Machinery, IEEE, Aerospace Club, Snowhares, Intramurals

## TECHNICAL SKILLS

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**Languages:** Assembly, C, C++, C#, Python, XML, Verilog, Batch, Lua

**Operating Systems & Platforms:** VxWorks, LynxOS, TI-RTOS, Xilinx, Raspberry PI, TI-TMS570LS

**Other:** Git, Subversion, Linux, Docker, Jira, Jama, DOORS, PREP, WindRiver, Trace32

## WORK EXPERIENCE

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### Platform Software Intern

May 2023 - Present

*Collins Aerospace*

*Cedar Rapids, IA*

- Developed and tested a cross-platform DNS library (VxWorks, LynxOS) for a common computing project
- Authored technical documentation on IDE integration, Python scripting, and prototyping tools
- Participated in 737 Max system testing and verification using DOORS, JAMA, and PREP
- Automated build and logging processes using batch scripts
- Implemented a CAN driver for an edge computing system

## PROJECTS

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### Fully Autonomous Crop Sprayer | C, C++, Lua, Python

- Developed a fully autonomous crop sprayer using Real Time Kinematics and RTK GPS guidance with a dedicated safety system
- Developed a dedicated safety system using a RTOS with a watchdog round robin scheduler
- Created my own Kernel with memory allocation and protection. I/O handling that included CAN, SPI, I2C, ADC and PWM
- Worked with electrical engineers to design, implement and test this system onto a PCB aswell as into the robot

### Designed and built a Central Processing Unit | Verilog, C, Assembly

- Designed and built a 5 staged pipelined 32 bit processor in FPGA
- Development starting from gates and flip-flops, then all the way up to arithmetic processing units and data storage
- Physically built individual components on bread boards to interface with the FPGA

### Snowmobile Belt Temp Sensor with Display | C, Assembly

- Developed a go-to-market product that keeps belt temperatures within design specifications
- Produced two successful models that used 3D printed parts, a micro-controller, a screen module, an infrared sensor, and a piezo buzzer

## LEADERSHIP

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### Club President

*Snow Hares, South Dakota State University*

- Founded the club in 2021 to propagate the experience and education of snowmobiling
- Lead the club in meetings, school events, and won various spirit day events

### Volunteer, Mentor

*4-H*

- Mentored youth Archery and Precision Optics teams during my senior year
- Qualified in state and national competitions, aswell as earning a scholarship for nationals