

Nathan Schaefer

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EDUCATION

University of Iowa

August 2025 - May 2026

M.S. in Electrical and Computer Engineering

University of Iowa

August 2021 - May 2025

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

GPA 4.07

- **Coursework:** Algorithms, Data Structures, Embedded Systems, High-Performance Computer Architecture
- **Extracurriculars:** Association for Computing Machinery, Google Student Developer Club, Hyperloop

TECHNICAL SKILLS

Languages: C++, Java, Python, Go, JavaScript, MATLAB

Frameworks & Libraries: React, Scikit-learn, PyTorch, Node.js

Other: AWS, Terraform, New Relic, Unity, Linux, Subversion, Git, HTML, CSS

WORK EXPERIENCE

Part-Time Student - Software Engineering

August 2025 – Present

John Deere

Urbandale, IA

- Mitigated security vulnerabilities in React and Node.js codebase for Operations Center Web

Research Assistant

August 2024 – Present

University of Iowa

Iowa City, IA

- Developed full-stack web app for visualizing audiogram data using React and Node.js, deployed on Linux servers
- Contributed to backend infrastructure involving Flask routes, MySQL integration, and Docker-based microservices for ML workflows

Software Engineer Intern

May 2025 – August 2025

John Deere

Johnston, IA

- Instrumented the team's APIs with New Relic Distributed Tracing, enabling observability and reducing response time by 90% in some services
- Built New Relic dashboards using NRQL queries to surface key transaction metrics and accounting data

Software Engineer Intern

May 2024 – August 2024

John Deere

Urbandale, IA

- Developed a Go API to generate SVG images with machine pass lines and directional arrows for field map overlays
- Implemented an AWS Lambda replacing 414 existing ECS servers, projected to save \$3.6 million annually

Software Engineer Intern

May 2023 – September 2023

Collins Aerospace

Cedar Rapids, IA

- Developed a UDP-based tool using socket programming with Java and C++ for testing File Transfer Protocols
- Coordinated with senior software engineers to enhance an internally used application using C++ to support a new file format and operate more efficiently

Teaching Assistant

January 2023 – December 2023

University of Iowa

Iowa City, IA

- Delivered a range of teaching activities, including tutorials toward learning C++ and Linux
- Participated in the assessment process using a variety of methods and techniques to offer practical, timely, and appropriate feedback to over 300 students

Software Development Intern

May 2022 – August 2022

BioNeos

Coralville, IA

- Developed an IoT web application using JavaScript on a team to monitor soil moisture levels in real time
- Developed routes in an Express RESTful API to send and receive data from a microcontroller

PROJECTS

FarmVision | C#, Unity, Python, REST API

- Developed a virtual reality agricultural data visualizer by utilizing John Deere Precision APIs
- Awarded Best Data Collection Hack by UIOWA Business Analytics at HackUiowa 2023