Nathan Schaefer

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EDUCATION

University of Iowa   August 2021 - May 2025
Honors B.S.E in Computer Science and Engineering   *GPA 4.10*

- **Coursework**: Applied ML, Generative AI, Algorithms, Data Structures, Embedded Systems, Virtual Reality
- **Extracurriculars**: Association for Computing Machinery, Google Student Developer Club, Hyperloop

TECHNICAL SKILLS

Languages: C++, Java, Python, Go, JavaScript, MATLAB, R, SQL
Frameworks & Libraries: React, Scikit-learn, JUnit, Express, Pandas, NumPy, Node.js
Other: AWS, Terraform, Jupyter Notebooks, Unity, Jira, Linux, Subversion, Git, HTML, CSS

WORK EXPERIENCE

Software Engineer Intern   May 2024 – August 2024
John Deere   *Urbandale, IA*

- Developed a Go API generating 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*

- Designed and developed a UDP-based network tool using socket programming with Java and C++, enabling efficient and reliable communication among distributed systems
- 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

Research Assistant   April 2022 – Present
University of Iowa   *Iowa City, IA*

- Conducted data analysis of grant-supported work for the U.S. Department of Education
- Utilized R for creating peer-reviewed conference presentations and research articles

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
- Created relational database for plants and moisture readings using SQLite
- 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
- Implemented an algorithm to process PNG files, extruding 3D geometry to model various field data measurements
- Awarded Best Data Collection Hack by UIOWA Business Analytics at HackUiowa 2023

INVOLVEMENT

Systems Team   Jan 2023 – May 2024
UIowa Hyperloop

- Contributed to development of C++ software for a pod to compete in the annual SpaceX Hyperloop Competition
- Researched and implemented components that assisted in wireless control of the pod