Nick Hageman

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EDUCATION

University of Iowa — Aug 2021 – May 2025
Bachelor of Computer Science and Engineering (B.S.E) — *GPA 3.92*
- **Coursework**: Algorithms, Data Structures, Software Design, Applied ML, Virtual & Augmented Reality
- **Extracurriculars**: Association for Computing Machinery, Google Developer Student Club, UIowa Hyperloop

EXPERIENCE

Holo Reality Lab — Dec 2023 – Present
Undergraduate Researcher — *Iowa City, IA*
- Actively developing an Apple Vision Pro application to achieve accurate and realistic 3D video communication
- Explored the use of neural networks to learn an optimized RGB-D encoding, compressing file sizes by **57%**

John Deere — May 2023 – Aug 2023
Software Engineer Intern — *Moline, IL*
- Wrote production code for an internally used application using React.js and Java impacting **20k+** monthly users
- Implemented API endpoints and managed MongoDB collections to efficiently store and retrieve user preferences
- Developed unit & integration tests using Docker, Jest, and Puppeteer to prevent bugs from entering production

University of Iowa — Jan 2023 – Dec 2023
Teaching Assistant — *Iowa City, IA*
- Delivered a range of teaching and assessment activities, including tutorials directed toward learning C++
- Held office hours to assist **170+** students debug code and understand advanced programming concepts
- Coordinated with professors to contribute to the development and enhancement of the curriculum

BioNeos — May 2022 – Aug 2022
Software Development Intern — *Coralville, IA*
- Built an IoT dashboard application displaying soil moisture data using embedded C++ and JavaScript
- Designed a relational database using SQLite to efficiently store and manage data acquired from microcontrollers
- Built new routes in an Express RESTful API to handle HTTP requests, allowing for streamlined data transfer

PROJECTS

FarmVision | *C#, Python, Unity, RestAPI*
- Developed a **Virtual Reality** agricultural data visualizer by utilizing John Deere Precision Ag 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

Real Estate Business Website | *React, PostgreSQL, Three.js, Docker, AWS*
- Developed a web application for home builder to expand marketing and customer communication
- Integrated a **Content Management System** (CMS) for the client to dynamically add 3D CAD floorplans
- Implemented an interactive satellite map to display available properties to customers
- Managed and deployed the application using Docker in an AWS hosting environment

INVOLVEMENT

UIowa Hyperloop — Jan 2023 – Present
Systems Team
- Contributed to the design of C++ software for a pod to compete in the annual SpaceX hyperloop competition
- Collaborated with the team in the assessment and testing of code
- Researched and implemented components that assisted in the pod's wireless control

TECHNICAL SKILLS

Languages: C++, Python, Java, JavaScript, Typescript, MATLAB
Frameworks & Libraries: Express, React, JUnit, Bootstrap, Pandas, NumPy
Other: Docker, Node.js, Electron.js, MongoDB, SQLite, Git, RestAPI, HTML, CSS