

# KIAN HAGEMAN

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## PROFESSIONAL SUMMARY

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Biomedical engineering undergraduate specializing in biomechanics and biomaterials, with hands-on experience in physiological modeling, medical device simulation, and full-cycle prototyping, from need statement through CAD, simulation, and verification testing. Seeking medical device engineering roles in R&D, simulation, and quality control.

## EDUCATION

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University of Iowa — B.S.E. Biomedical Engineering

3 Time Dean's List GPA 3.26 / 4.0 - Dec 2026

**Relevant coursework:** Senior Capstone • Biomaterials & Implant Design • Adv. Medical Device Design Studio • Cardiopulmonary Design & Modeling • Biomedical Micro Devices • Fluid Mechanics • Electrical Circuits & Systems

### Engineering Projects:

- **Senior Capstone (Cyclodapt):** Worked on a designing an adaptive bicycle braking and balancing system enabling a rider with an upper-limb difference to cycle without a prosthetic; from need statement to a working and tested prototype.
- **Aortic Stent CFD Model:** Used a cardiovascular model of stent placed in the descending aorta and compared it to a healthy aorta using Ansys Fluent and EnSight post-processing to evaluate wall shear stress, recirculation, and more.
- **EMG-Activated Elbow Model:** Modeled the elbow joint and ligaments and used a servo to reproduce motion from live EMG signals via an Arduino microcontroller, supporting circuitry, and custom-built filtering algorithms, and verified.
- **Cardiovascular Gas Exchange Simulation:** Defined and solved a system of differential equations from a known initial condition in MATLAB to model cardiovascular gas exchange of oxygen and CO2 in the lungs and the rest of the body.
- **Cerclage Wire Re-design:** Redesigned the surface macrotexture of titanium cerclage fixation bands to increase performance.

## WORK HISTORY

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Dive Right In Scuba — Engineering Intern & Technical Sales

Summers 2023–2026

- Completed a formal engineering internship (one summer): Inspected, cleaned, rebuilt, and certified aluminum and steel high-pressure cylinders and regulator systems to manufacturer specifications; blended custom nitrox and trimix gases.
- Authored and illustrated three in-house technical reference guides, Ultimate Backmount, Sidemount, and Drysuit.
- Independently developed internal processes that removed redundant triple-reporting, improving efficiency.
- Appointed drysuit program manager; traveled out of state to fit exposure protection for the Michigan State Police team.

Double Action Dive Charters — Booking Manager

May 2026–Present

- Booking manager for scuba diving charter boat, point of contact for customers, captains, and crew, and helps to coordinate boat maintenance, crew training, and partner dive shop accounts.

Dive Scheduler — Chief Product Officer and Sales

May 2026–Present

- Lead product manager for a booking and scheduling platform built for dive charters; translate feature concepts into specifications for a third-party international dev team.
- Designing a website and app to allow dive charters to incorporate customer and partner bookings, rosters, team management, certifications, waivers, boat maintenance and logistics, docks, dive sites, rentals, crew training, pay sheets, and more.

## LEADERSHIP & INVOLVEMENT

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- **Eagle Scout:** Organized a work team of government officials and local volunteers to build a walking bridge (2021).
- **Brazilian Jiu-Jitsu Club President:** Organized competitions and taught fundamentals classes (2024-2025).
- **Technical Diver:** Certified since 2014; cavern, cave, and deep technical certifications (2020–2023). Working knowledge of gas laws, pressure physiology, and equipment reliability.
- **Published Art:** "The Reflection," acrylic on canvas, published in the University of Iowa's *Ink Lit Mag* (2023).

## SOFTWARE AND SKILLS

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MATLAB • Creo Parametric (CAD) • Ansys / Fluent • EnSight • 3D Slicer • C++ • Python • Arduino • CFD & FEA •