

## Ian Brueggeman

Sioux Falls, SD, 57108 • (605) 496-5776 • ianbrueggeman@gmail.com • linkedin.com/in/ianbrueggeman

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### EDUCATION

South Dakota State University, Brookings, SD

May 2027

**Bachelor of Science in Mechanical Engineering**

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### TECHNICAL SKILLS:

Software: Autodesk Fusion 360, SolidWorks, Autodesk Inventor, AutoCAD

Programming: C++, Arduino, MATLAB

Manufacturing: CAM, 3D Printing, Rapid Prototyping, Industrial Design, Robotics Manufacturing/Design

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### EXPERIENCE

**Hardware Designer, *Build.ai***, San Francisco/Shenzhen

May 2025 – August 2025

- Designed smart-glasses hardware from concept to prototype, encompassing industrial design and mechanical systems
- Transitioned prototypes to mass manufacturing with ODM partners in Shenzhen

**Mechanical Engineering Intern, *Showplace Cabinetry***, Harrisburg, SD

May 2024 – August 2024

- Redesigned the CNC back-panel drill in SolidWorks, optimized drilling head design by reducing part count by 13% and complexity by optimizing sheet metal assembly
- Updated legacy designs in SolidWorks and improved safety net layout in AutoCAD
- Made 30+ different jigs for drilling/stapling/placement, integrated print-in-place hinges, reducing setup time and enabling efficient 3D-printed manufacturing

**Founder, *ENEN Design***, Etsy, Brookings, SD

August 2023 – Present

- Designed, marketed, and fulfilled 5 different custom-engineered products
- Achieved \$16,000+ revenue in 2025 with a 6-printer in-house manufacturing setup

**Founder, *Diffy (Stealth Startup)***, Brookings, SD

July 2025 – Present

- Invented a new type of differential cycloidal gearbox, reduced complexity by changing output system, reducing part count by 37%
  - Developing robotics actuators integrating custom motor and gearbox designs
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### LEADERSHIP EXPERIENCE

**JACKS Robotics**, Brookings, SD

August 2023 – Present

- Founded VEX U robotics team, served as team captain; grew the program to over 20 members, developed organizational structure, delegated tasks
- Main hardware designer/CAD team lead for the past 3 seasons
- Earned highest award out of 180 teams at Vex Worlds 2024 (Excellence Award)
- Placed second at Vex Worlds in Skills 2024 (programming and driving)
- Raised \$50,000+ in funding through campaigns in two years

**Tiger Robotics**, Harrisburg, SD

August 2018 – May 2023

- Led team to World Champion (10,000+ teams), US Open Finalist, and 20+ other titles in 2023
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### PATENTS

- SMART WEARABLE DEVICE SYSTEM WITH POWER-OPTIMIZED IMAGE CAPTURE
  - US Provisional Patent Application No. 838398 · Filed Jul 16, 2025 (Patent Pending)
  - Co-inventors: Jonathan Jia, Madhav Rapelli, Eddy Xu
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### PROJECTS

- 3lb Robot Combat: Designed and fabricated two robots (machined + 3D printed); placed 5th regionally
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### AWARDS

- Autodesk Make it Real CAD Challenge
  - National Champion (2022): Internally ratcheting sprocket
  - 2× National Finalist (2021, 2023): Compact cycloidal gearbox; Adjustable tooth sprocket