

# John Bettinger

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## EDUCATION

### Vanderbilt University

*Bachelor of Science in Computer Science & Applied Mathematics, Minor in Physics*

Nashville, TN

May 2025

• GPA: 3.99/4.00

• Coursework: Linear Algebra, Differential Equations, Multivariable Calculus, Data Structures, Discrete Math, Software Design

## PROFESSIONAL EXPERIENCE

### Vanderbilt Institute for Surgery and Engineering

*Undergraduate Research Intern*

Nashville, TN

March 2023 - Present

- Designed, fabricated, and tested 18 different tissue anchoring mechanisms for centimeter-scale mucosal interfacing robot
- Analyzed data with MATLAB image processing resulting in characterization of viscoelastic tissue sensing mechanism
- Utilized Arduino microcontrollers and LabView to process and interpret hall effect sensor readings for data collection
- Presented weekly on project progress and soft robotics research to a panel of 10 researchers

### Nordstrom

*Service Representative*

Corte Madera, CA

June 2022 - August 2022

- Processed over 1000 sales and returns during highest 4-week sales period of the year
- Collaborated with 8 other departments to ensure the timely fulfillment of orders and services
- Communicated with close to 100 customers each day to creatively resolve issues and guarantee satisfaction

### Jamba Juice

*Team Member*

Greenbrae, CA

May 2018 - August 2021

- Excelled in customer service and sales at busiest regional store with over 1 million annual gross
- Trained and mentored over 20 employees as one of the most experienced members of the team
- At 15, strong performance as the youngest employee in the company influenced regional management to lower hiring age

## PROJECTS

### Exproy

June 2023 - Present

- Developing a chatbot application to enable users to upload and interact with large text files, providing a unique education
- Technologies: React, Next.js, Node.js, Express, Pinecone, Vercel, OpenAI, Langchain

## LEADERSHIP & EXTRACURRICULARS

### Vanderbilt Robotics

*Mechanical Team*

Nashville, TN

August 2022 - Present

- Researched and designed static tensioning system as part of team's drivetrain unit for NASA Lunabotics Challenge
- Coordinated with electrical and software teams as well as faculty advisors to set and meet deadlines
- Conducted extensive testing and finite element analysis of robot to locate and resolve problems
- Created 6 aluminum parts in SolidWorks and Onshape before machining them using bandsaw and mill

### The Vanderbilt Fusion Project

*Vacuum and Gas Systems Team*

Nashville, TN

January 2022 – May 2023

- Selected winner of Vanderbilt Sesquicentennial Grant
- Assembled model of IEC fusion reactor using Fusion 360 as part of this undergraduate student-led initiative
- Researched and designed vacuum chamber to be held at one ten-thousandth atmospheric pressure
- Contacted 8 vendors to successfully source and ensure proper specifications for deuterium and nitrogen gas

### Vanderbilt Engineers Without Borders

*Nicaragua Team*

Nashville, TN

August 2021 – February 2022

- Researched 16 water quality parameters as part of water supply unit to assess health risks to the Sabana Larga community
- Analyzed and reported water quality data in contribution to a 48-page technical report resulting in the project's approval
- Fundraised and organized 2 donation events including annual alumni newsletter and bake sale to achieve \$200 in funding

## SKILLS & INTERESTS

**Skills:** Java, C++, Express, Node.js, HTML/CSS, JavaScript, Git, Microsoft Excel, Spanish (conversational)

**Interests:** Skiing, Biking, Cooking, Swimming, Guitar, Artificial Intelligence, Space Exploration, Autonomous Vehicles

**Other Involvements:** Vanderbilt Asian American Student Association, Theta Tau Professional Engineering Fraternity