

# Christopher Bowman

Software Engineer - New London, CT | 508-302-9166

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## TECHNICAL SKILLS

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**Languages & Technologies** - Python | JavaScript | Java | C++ | SQL | WordPress | Webflow | Figma

**Libraries & Frameworks** - React.js | Next.js | Express.js | Django | Flask

**Databases** - PostgreSQL | MongoDB

**Cloud Services** - Amazon Web Services ( AWS )

**CAD/ FEA Softwares** - ABAQUS | Altair Hyperworks | ANSYS | Fluent | SolidWorks | Creo | Blender

## PROFESSIONAL WORK EXPERIENCE

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10/2023 - Present

**Parliament Tutors** | Mechanical Engineering Academic Tutor

- Providing tutoring in Statics and Mechanics of Materials to cadets at the United States Coast Guard Academy.
- Providing tutoring in Statics, Multivariable Calculus and Physics 2 to veterans, online, with Veterans Affairs.

8/2023 - Present

**NextGen** | Software Engineer

- Designed and built the company website with **Next.js**, **React.js** and **Tailwind CSS** with a team of 6 software engineers.
- Helped architect a **Node/Express RESTful API** using **PostgreSQL** as the backing data store.
- Created curriculum utilizing **Notion** and **GitHub** for collaborative project management. The final curriculum included sections that cover: **HTML/CSS**, **JavaScript**, **data types**, **objects**, **classes**, and **methods**.

2/2023 - Present

**Scott's Landscaping, Inc** | Senior Software Engineer

(<https://scottslandscaping.org>) (<https://github.com/cbowman422/scottslandscaping>)

- Designed and built a responsive web application with **React.js** to replace the company's old and dated website.
- Improved overall accessibility (**A11y**) across devices and increased user retention rate by 15%.
- Enhanced user experience and user interface (**UX/UI**), resulting in a 30% increase in website engagement and a 20% decrease in bounce rate.
- Managed the transfer of the **domain registrar**, **email hosting**, and updated **DNS records** to **Namecheap** and **Vercel** resulting in a 60% decrease in annual hosting cost. Worked closely with the team at Scott's Landscaping to ensure that downtime was kept to a minimum and ensure changes did not impact day-to-day business.
- Managed email complications by executing a transfer from **POP** to **IMAP** resulting in a 100% decrease of lost emails.

6/2023 - 8/2023

**SpaceLab** | DevOps Engineer Internship

(<https://spacelab.space/>)

- Built scalable backend environment utilizing cloud-native functionalities (**AWS EC2**, **AWS Fargate**, etc.)
- Led the charge to design the cloud-native deployment system using **AWS Fargate** and **Docker** to achieve scalability while also balancing cost.
- Leveraged ChatGPT to help supplement my skills and improve my knowledge on topics such as **AWS**, **GraphQL**, and **Docker**.

8/2020 - 10/2022

**General Dynamics Electric Boat** | Engineer II

- Produced FEA models for 2 Virginia and 1 Columbia class Submarine, using ABAQUS scripting and **Python**.
- Specialize in Finite Element Analysis with ABAQUS and multiple software programs and post processing techniques.
- Performed static and dynamic structural analysis to support design and shock qualification of internal and external shipboard items using the finite element method of hand calculations.
- Conducted research, development, technical consulting, and application of state-of-the-art computational engineering analysis methods and software.
- Completed complex analysis for advanced applications including predictive weld distortion, fatigue and fracture, combined shock and submergence, composite materials, thermal and thermo-mechanical
- Performed assessment and evaluation of significant shipyard facility structures used to enable submarine construction.
- Secret Level Security Clearance.

1/2019 - 12/2019

**University of Massachusetts, Amherst** | Teaching Assistant

- Supported two classes for "Theory- Modeling Principles and Applications in Finite Element Analysis" and "Machine Component Design", gaining leadership experience.

- Accurately graded over 300 mini projects of high technical difficulty.
- Hosted 2 and 3-hour, well attended, office hour sessions twice weekly for 14 weeks to help students with questions and projects.projects of high technical difficulty.

## EDUCATION

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5/2020

**University of Massachusetts, Amherst** - Bachelor of Science in Mechanical Engineering

- 3.44 GPA
- Relevant coursework includes: Pre-Calc, Calculus 1 & 2, Multivariable Calculus, Differential Equations, Statics, Dynamics, Engineering Statistics, Linear Algebra, Intro to Computer Science and Intro to Electrical Engineering.

2/2023

**General Assembly** - Software Engineering Immersive

- Focused on product development fundamentals, object-oriented programming, MVC frameworks, data modeling, and team collaboration strategies.
- Mentored students during group work and provided support with debugging code.

## SOFTWARE DEVELOPMENT PROJECTS

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3/2023

**Money Mania**

(<https://github.com/cbowman422/Money-Mania-Frontend>)

Tech Stack : **MongoDB | Express | React.js | Node.js | HTML | CSS**

- Developed a **MERN** application geared towards student finance education, which placed 1st place in the GA 2023 Gamifying Hackathon.
- Led a team of 3 UX/UI designers and 4 software engineers to accomplish MVP in a 4-day sprint.
- Designed the software architecture to fit the requisites of the React framework.
- Responsible for the **Node.js**, **Express**, and **MongoDB RESTful** back-end server and rebuilding 3 **React.js** front-end pages.

2/2023

**Messenger**

(<https://github.com/cbowman422/messenger>)

Tech Stack : **Socket.IO | MongoDB | Express | React.js | Node.js | HTML | CSS**

- Acted as project lead for a dynamic messaging **MERN** application employing **Socket.IO** for real-time chat room messaging.
- Responsible for integrating a new library, **Socket.IO**, into a **MERN** application with authorization in order to accomplish MVP in a 1-week sprint.

12/2022

**HAPI HOUR**

(<https://github.com/cbowman422/hapi-hour>)

Tech Stack : **React.js | JavaScript | HTML | CSS | Grid | Flexbox** | thecocktaildb.com

- HAPI Hour is a front-end web application built with **React.js** to navigate objects from a 3rd party API (thecocktaildb.com).
- Coordinated with another software engineer to accomplish MVP in a 1-week sprint and was mainly responsible for developing the **React** components.