

Zachary A. Flegle

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🌐 <https://github.com/zflegle3> in <https://www.linkedin.com/in/zflegle/> 🔗 <https://zflegle3.github.io/portfolio/>

Programming Experience

Powderly – Ski Conditions Tracking Application

[Live Demo](#) | [Source Code](#)

(JavaScript, React.js, Redux, Sass, Node.js, Express, MongoDB, Mongoose, Jason Web Tokens, Google Maps API, Vercel)

- Designed and developed a winter weather application with an intuitive Google Maps interface, empowering users to search for, geographically visualize, and sort real-time ski conditions from 400 ski resorts across the United States
- Built a RESTful API to streamline all user CRUD functions such as, authentication, profile updates, saving favorite ski resorts, and uploading profile images, resulting in an efficient management of user data and improved user experience
- Managed authentication states with Redux and JSON Web Tokens to enable secure registration, login, and password reset

E-Commerce Payment Checkout

[Live Demo](#) | [Source Code](#)

(Typescript, CSS, Webpack, GSAP)

- Created a responsive credit card payment form that displays a confirmation of the user's information before submission
- Implemented client-side input validation and error handling to provide an intuitive user experience

Where's Waldo Photo Tagging Game

[Live Demo](#) | [Source Code](#)

(JavaScript, HTML, CSS, React.js, Google Firebase)

- Developed a full-stack, photo tagging game application, allowing users to play Where's Waldo and compare high scores
- Incorporated a Google Firebase Cloud Firestore database to facilitate efficient storage of gameplay data

Battleship Game vs Computer AI

[Live Demo](#) | [Source Code](#)

(JavaScript, HTML, CSS, Webpack, Jest)

- Employed Test Driven Development (TDD) methodologies and the Jest testing framework to develop a single player game application, leading to improved code quality and increased confidence in program execution
- Programmed an AI opponent that simulates human decision-making to provide users with an engaging gaming experience

Technical Skills

Languages: HTML, CSS, JavaScript, TypeScript, Matlab, Python

Frameworks/Libraries/Databases: React.js, Redux, Sass, Bootstrap, Node.js, Express, MongoDB, Mongoose, Jest, Socket.io

Tools & Miscellaneous: Git, Github, Npm, Webpack, Vercel, Heroku, Google Firebase, Postman, GSAP

Education

Georgia Institute of Technology

Atlanta, Georgia

Bachelor of Science in Mechanical Engineering

August 2013 – May 2018

Professional Experience

Procter & Gamble

Cincinnati, Ohio

Global Material Developer

February 2021 – December 2021

- Spearheaded nonwoven topsheet development, by successfully maintaining strong supplier relationships, establishing material specifications, and collaborating with project stakeholders across multiple international locations
- Oversaw the research, development, and implementation of 4 new nonwoven topsheet materials, leading to an annual net savings of \$2 million and the mitigation of supply chain risks caused by the COVID-19 pandemic
- Established correlations between material properties and human product interaction through mechanical, sensory, and fluid handling research, to predict product performance and enhance consumer comfort

Gulfstream Aerospace

Savannah, Georgia

Operations Engineer II

January 2020 – December 2020

- Operated as the process owner for the aft section of two start-up aircraft programs, leveraging manufacturing expertise to optimize aircraft production, enhance design, and deliver a superior quality product for Gulfstream customers
- Successfully led the development and implementation of a production conformity software, resulting in the resolution of over 300 discrepancies and the establishment of proper engineering configuration on all aircraft

Operations Engineer I

July 2018 – December 2019

- Identified discrepancies in the aft longitudinal splice design and effectively collaborated with a multidisciplinary team to redesign the structures, creating an annual cost savings of \$126,000 per aircraft program per year
- Directed design reviews with cross-functional teams to optimize the manufacturability of over 200 structural models

Co-Op Program Mentor

July 2018 – December 2020

- Supervised a weekly mentorship program to impart professional development skills to engineering students