

# Jack Furmanek

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## OBJECTIVE

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**Pursuing an internship during Summer 2024 that relates my Software Engineering/Development skills in an environment that will further my learning and contribute to my employer's goals.**

- My understanding of algorithmic foundations, as well as my experience in both frontend and backend development, would make me a valuable asset.
- As a Junior pursuing both a Computer Science and Mathematics degree, I have gained a strong foothold in analytical thinking and complex problem-solving, which proves useful in a wide array of development environments.

## WORK EXPERIENCE

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### Boilerexams

**Apr. 2023 – Present**

*Content Lead*

*West Lafayette, IN*

- Boilerexams is a student-run website that integrates previously-given Purdue University exams with pre-recorded video explanations and statistics tracking.
- As the organization's Content Lead, I lead meetings among our explanation creators, maintain conversations with our development and relations teams, and oversee new applications and additions to the project.
  - Over half a million questions answered in the Fall 2023 semester, and 2.5 million since the website's founding in 2020
  - [www.boilerexams.com](http://www.boilerexams.com)
- Additional responsibilities include recording, uploading, and maintaining the website's MA 16100 (Calculus 1) exams and material.

### Mathematics Tutor

**May 2023 – Aug. 2023**

*Chesterton, IN*

- Demonstrated expertise in breaking down mathematical theories and problems into understandable segments for students of various age groups and learning abilities in high school.
- Seventeen students were assisted over the summer, all of whom admitted to feeling more prepared for their upcoming academic year and enjoyed my assistance.
- As a self-run business, I was also responsible for maintaining communication with clients, scheduling meetings that work for all parties, and devising solutions for any problems that arise.

### Boys and Girls Club of Greater NWI

**May 2022 – Aug. 2023**

*Youth Development Professional*

*Chesterton, IN / South Haven, IN*

- Worked with young children to develop their interests and help them grow into responsible, caring, and productive young adults.
- Acted as a leader and mentor for members, ensuring a safe environment and fostering teamwork, cooperation, and respect.
- Manage conflicts that arise between members, and relay those conversations and information to the respective parents or guardians, as well as fellow coworkers.

## EDUCATION

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**Purdue University**

**May 2025**

- Concentration in Software Engineering, a track that focuses on engineering principles in programming
- Classes focus on optimal algorithm design, working in teams, and overall good coding practice
  - CS 381 “Analysis of Algorithms” – Problem solving; quality algorithm/data structure analysis and design
  - CS 354 “Operating Systems” – Implementation and architecture of operating systems
  - CS 307 “Software Engineering I” – Utilizing teamwork skills in a real-world programming setting

## PROJECTS

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### Sever

- Sever allows users to keep better track of their recurring costs, and rewards them for quitting unnecessary purchases.
- The app keeps track of how much money the user has saved by quitting different services (e.g. Netflix, eating out), and lets the user reallocate this money towards guilt-free, one-time purchases.
- Developed using React, Flask, and PostgreSQL.

### GameQuill

- GameQuill is a website that allows users to log different video games that they’ve played in an account-based system.
- The website features social media elements such as followers, likes, and comment sections, and is intended to foster discussion, communication, and interest surrounding video games.
- Developed with React in IntelliJ IDEA utilizing Firebase services such as accounts and Firestore Database. Created alongside three others as a group project.

### Personal Website

- Created a personal portfolio website used to highlight some of my work and accomplishments related to my career and education.
- Developed using HTML/CSS and the Three.js framework; hosted on Github Pages.

### MyShell/MyMalloc

- Created a personal shell that allows a user to execute commands via a command line, as well as a personal Malloc allocator that allows a programmer to create, use, and delete pointers to allocated memory.
- Developed in the Vi editor in C++.

## SKILLS

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- Programming Languages: Java; C; C++; Kotlin; Swift; Python; HTML/CSS
- Frameworks, Services, and Software: React; Google Cloud, Firestore DB; Flask; PostgreSQL; IntelliJ IDEA; Three.js