Ryan **Groch**

SOFTWARE & WEB DEVELOPER

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Objective

To pursue an internship in software development of any kind. I'm looking for a position where I can learn from experienced team members while applying and deepening my knowledge of standard practices.

Skills

Languages: HTML/CSS/JavaScript, SCSS, Typescript, Python, C++, SQL
Frameworks and Libraries: Node.js, React.js, Next.js, NumPy/Pandas/Matplotlib
Tools: Git, GitHub, NPM

Projects

Ecommerce Store   *January 2023 - Present*

LIGHTSPEED TRIGGERS

- Used Next.js to create a full-stack application connected to a MySQL database with the Prisma ORM as an abstraction over the database.
- Created a performant SEO-optimized landing page.
- Implemented CRUD functionality on the back end to allow the site administrator to create customization options for their users.
- Integrated with Stripe to handle purchases.

ComEd Prices   *December 2023*

GITHUB.COM/RYAN-GROCH/COMEDPRICES

- Used the Tauri framework to write a desktop application with TypeScript.
- Integrated with the official ComEd API to retrieve and display electricity prices.
- Configured GitHub Actions to automatically generate binaries for a variety of operating systems.

Image Cropper   *March 2023*

RYAN-GROCH.GITHUB.IO/IMAGE-CROPPER/

- Wrote an algorithm in TypeScript to crop an image in a circular pattern.
- Utilized HTML canvas for image processing.
- Used GitHub Actions for automatic deployment.

Othello AI   *April 2022 - November 2022*

RYAN-GROCH.GITHUB.IO/OTHELLO-AI-V2/

- Implemented the rules of the Othello game in Typescript, and created a UI with React.js which tracks the state of the game.
- Used the minimax algorithm with alpha-beta pruning to create an AI that demonstrates a reasonable quality of play.
- Made use of web workers and asynchronous programming to avoid freezing the UI as the algorithm performs computations.

Sudoku Generator   *March 2022*

RYAN-GROCH.GITHUB.IO/SUDOKU-V2/

- Used recursive backtracking to write algorithms to generate and solve random Sudoku puzzles.
- Created a user interface to allow the user to play through the puzzles.
- Implemented common utilities into the game such as undoing previous moves and taking notes.

Education

Northern Illinois University   *Palatine, IL (Harper College)*

B.S. IN COMPUTER SCIENCE   *January 2024 - December 2025*

- Relevant Coursework: Programming in C++, Databases, Programming in IBM Assembly.
- In progress; anticipated completion is in December 2025.

Northern Illinois University   *DeKalb, IL*

B.S. IN PSYCHOLOGY   *August. 2017 - December. 2020*

- GPA: 4.0; Graduated with honors; summa cum laude.
- Relevant Coursework: Data Science (Python), Probability & Statistics, Calculus I - Calculus III.
- Minor in philosophy.
- Worked in a university neuroscience lab (August 2019 - March 2020).
- Participated in eight years of marching band (high school & college).