

# Ben Heinze

*Bachelor of Science in Computer Science - Professional*

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## Objective

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With a passion for problem-solving and a track record of fostering positive relationships within teams, I switched majors from film to computer science after two years. Seeking opportunities to specialize in both software engineering and data analysis, leveraging my technical skills and collaborative nature to contribute to innovative projects and further develop my expertise in these areas.

## Education

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### Montana State University

*Bozeman, MT (Sept 2019 - Graduated May 2024)*

- GPA: 3.39
- Relevant Courses
  - **Artificial Intelligence:** Learned and implemented Genetic Algorithms, First-Order Logic, Bayesian Networks, and Machine Learning.
  - **Software Engineering:** Agile Development, React, Client-Oriented, Time-Oriented.
  - **Data Mining:** Studied the math of graph theory, networks, dimension reduction, clustering/evaluation of clusters, classification, text-mining, and Recommender Systems.
  - **Data Visualization:** Visualized dimension reduction (PCA), Clustering, time series, trends, text-mining, geo-spatial data.
  - **Databases:** Implemented SQLite ran in a locally hosted website to perform advanced search, CRUD, and other data manipulation techniques in Java.

### Capital High School

*Helena, MT (Aug 2015 - June 2019)*

- High School Diploma
- GPA: 3.67

## Skills and Abilities

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**Technical Skills:** Python, Java, Git, SQL, React, Data Analysis Tools, Agile Development

**Personal Qualities:** High-detail collaboration, client-oriented, adaptable, time-management focused.

**Interests:** Artificial Intelligence, **Software Engineering**, **Data Science**, Databases.

## Projects

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### Human Resource Maintenance Form

*Software Engineering Applications - Spring 24*

- Accomplished a cost-free online maintenance form for the HRDC by leading/contributing an agile team of five people using the react framework.

### UNHCR Refugee Data Visualization (Link)

*Data Visualization - Spring 24*

- Demonstrated the ability to pose compelling questions about the UNHCR refugee dataset and perform visualization techniques to suggest a means to a conclusion.

### Diction-Shift Analysis in Academic Papers (Link)

*Data Mining - Spring 24*

- Ranging from 2018-2024, gather text from every free from Journal of the ACM, preprocess the data, then perform term frequency-inverse document frequency in an attempt to detect a rapid shift in diction after November 2022.

## SQLite Database

*Databases - Fall 23*

- Developed Java code to interact with a generic music store's Entity-Relationship (ER) Diagram and database, enabling seamless connectivity, query execution, and database manipulation including.
- Implemented diverse functionalities including CRUD, verification, Redis caching, and optimizing the user experience on a locally hosted website.

## Sudoku Solver (Link)

*Artificial Intelligence - Fall 23*

- Used five different algorithms to solve Sudoku: simple backtracking, backtracking forward-checking, backtracking arc-consistency, **simulated annealing algorithm**, and **genetic algorithm**.

## Password Keeper (Link)

*Software Engineering - Spring 23*

- Collaborated within a four-member Agile team to formulate the requirement specification document, encompassing the product vision, user stories, and use cases. Additionally, created a design specification document integrating a class diagram and sequence diagrams.

## Awards and Achievements

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<b>Outstanding Undergraduate Teaching Assistant:</b> Gianforte School of Computing	<i>May 2023</i>
<b>Honor Roll - Dean's List:</b> Montana State University	<i>May 2023</i>
<b>110% Award:</b> Capital High School Varsity Soccer	<i>Oct 2018</i>
<b>Giraffe Award:</b> Capital High School	<i>Dec 2017</i>

## Recent Work Experience

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### Grocery Staff, COOP West Main

*Aug 2023 - Dec 2023*

- Managed shelf replenishment and collaborated with fellow truck team members to ensure timely and organized product delivery.

### Teaching Assistant, Montana State University CS Department

*Jan 2023 - May 2023*

- Supported the largest introductory computer science course in the university.
- Evaluated assignments and programs.
- Conducted thorough grading of assignments and programs, offering constructive feedback to students.
  - Presented lab goals and concepts while conducting labs.
  - Provided clarification and assistance to students encountering challenging concepts.
  - Held regular office hours and scheduled one-on-one meetings with students as needed.
- Demonstrated leadership by occasionally assuming the instructor's responsibilities during their absence.

### Lead Shoe Associate, Kohl's

*Apr 2021 - Apr 2023*

- Autonomously organized and optimized shoe department to meet company objectives.
- Delivered superior customer service and enhanced shopping experiences through attentive assistance and adept resolution of challenges.
- Successfully led and inspired shoe associates, aligning their efforts with store and department objectives to enhance performance and customer satisfaction.
- Exhibited adaptability and versatility by seamlessly transitioning into different associate roles as needed, maintaining operational continuity and enhancing efficiency.