

KARIK FREIHEIT

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EDUCATION

Grand Canyon University

Phoenix, Arizona

B.S. in Computer Science with an Emphasis in Big Data Analytics

2026

Relevant Coursework

Object Oriented Programming, Calculus I-III, Discrete Math, Linear Algebra, Database Design, Computer Architecture, Data structures and Algorithms.

TECHNICAL SKILLS

Languages and Libraries JavaScript, Java, C++, C#, Python, ASP.Net, Flask, JQuery, SQL, HTML, CSS, ChartJS
Tools SSMS, VSCode, Visual Studio, Git, AWS, Azure

PROFESSIONAL EXPERIENCE

Software Engineering Intern

May 2024 - August 2024

Karman Space & Defense

Mukilteo, WA

- Developed a unique map visualization and management tool using JavaScript and HTML Canvas. Implemented robust features for creating, destroying, and manipulating SVG objects, with seamless save and load functionality using JSON to enhance user experience and data persistence.
- Utilized JavaScript, JQuery, ChartJS, and ASP.Net to design 5+ intuitive web pages, effectively presenting queried data and significantly improving operational efficiency across multiple departments.
- Implemented a system to retrieve and visually display real-time machine data using WebSockets, delivering dynamic updates and enhancing the monitoring of operational metrics such as cure temperature and pressure.

Research and Development Team Lead

September 2023 - April 2024

Grand Canyon University

Phoenix, AZ

- Led a team in researching and developing a proof-of-concept software for the university, overseeing project phases from initial concept to implementation while conducting in depth research and development of algorithms in C#.
- As team lead, managed goal tracking, coordinated assignments, planned and led meetings, and maintained regular communication with the Research and Development Advisor to ensure alignment and progress.

Business Systems Administrator Intern

June 2023 - August 2023

Karman Space & Defense

Mukilteo, WA

- Leveraged SQL and SSMS to craft complex queries utilizing advanced techniques such as CTEs and window functions, significantly enhancing query efficiency and improving the internal data management processes.
- Created numerous versatile web components, enhancing scalability and maintainability for future projects, while significantly streamlining 15+ user interfaces and improving overall functionality for data visualization dashboards.

PROJECTS

Cellular Automata Designer

- Allows users to create and edit custom rules for cellular automata, enabling dynamic and tailored simulations of cell behaviors and interactions.
- Users can specify conditions and outcomes for 125,000+ cells, providing flexibility to model complex systems like Conway's Game of Life. karikfreiheit.com/gameoffline

AI Project Idea Generator

- Leveraged the ChatGPT API with tailored prompts to generate unique project ideas based on user suggestions.
- Hosted on Azure and seamlessly integrated with an Azure SQL Database for efficient storage and retrieval of generated responses. karikfreiheit.com/gpt

Particle Physics Simulation

- A Java application utilizing the Processing graphics library to construct dynamic vector fields that drive particle motion, resulting in captivating visualizations. [Github.com/KarikFreiheit](https://github.com/KarikFreiheit)