**HARRISON REED**

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**GitHub: https://github.com/hreed88**

**Computer Scientist**

**OBJECTIVE**

Motivated and technically adept Computer Science graduate with a strong foundation in software development and systems integration. Skilled in SCRUM-based development, system requirements verification, and secure, reliable software design. Passionate about building scalable, mission-focused solutions that support real-world impact. Committed to continuous learning and collaboration in fast-paced, agile engineering environments.

**AREAS OF EXPERTISE**

**Professional Skills**

Team Collaboration | Professional Engagement | Self-Directed Learning | Quality Control | Organizational Skills | Time Management | Problem-Solving | Customer Service

**Technical Skills**

* **Programming & Scripting Languages**  
  Dart | Python | Java | C++ | C | Lua
* **Tools & Technologies**  
  Git | Docker | GDB | Ghidra | Firebase | MongoDB | Linux CLI | Microsoft Office
* **Concepts & Methodologies**  
  Software Engineering Principles | Software Development Methodologies | Debugging | Security Design Principles  
  Algorithm Design & Optimization | Data Structures and Algorithms | Agile | Scrum
* **Software Security & Reverse Engineering:**  
  Security Analysis | Software Reverse Engineering | Mobile Security | Computer Architecture (x64/MIPS)
* **Artificial Intelligence:**  
  Neural Networks (CNN, RNN) | Transformers

**EDUCATION**

**University of Kansas, Lawrence, KS | Graduation: May 2025 | Dean’s List/Honor Roll 2025 | GPA 3.19**

Bachelor of Science in Computer Science

**WORK EXPERIENCE**

**THE MORTGAGE NETWORK | DENVER, CO August 2024 – December 2024**

Contract Software Developer

* Custom real estate automation tool for a local real estate agent and mortgage lender
* Led the design and development of a Python application with a user-friendly interface to automate monthly home appraisal emails for past clients.
* Parsed customer data (addresses, names, states) from Excel files and stored it in a MongoDB database, organized by date.
* Integrated with CoreLogic to fetch real-time property valuations and synced data with the client’s records.
* Automated generation and delivery of customized email reports to clients, improving customer engagement and retention.
* Delivered a turnkey solution under contract, managing both technical execution and client communication.

**WINDOWS PLUS | BOULDER, CO Seasonal from 2021 to present**

Window Washer

* Cleaned windows and screens on residential and commercial properties, showing efficiency and productivity by averaging 1-3 properties daily.
* Enhanced customer satisfaction by providing thorough and efficient window cleaning services, resulting in increased client retention and word-of-mouth referrals.
* Transported supplies and materials to and from job sites for smooth operations and timely completion of tasks.
* Worked collaboratively with a team of peers and contributed to a supportive and productive work environment.
* Demonstrated environmental responsibility by using eco-friendly cleaning products and waste disposal methods, minimizing the company's ecological footprint.

**PERSONAL WORK**

**HARMONY | BACKEND DEVELOPER  
GitHub - https://github.com/goobGoblin/Harmony  
*Mobile app integrating multiple music platforms (Spotify, YouTube Music, Apple Music, etc.)***

* Engineered and optimized backend infrastructure using Firebase and RESTful APIs, reducing average data fetch latency by 20% and improving app responsiveness across devices.
* Designed and implemented API integrations with major music platforms, ensuring full compliance with third-party usage policies.
* Partnered with frontend team to design efficient data flow between backend services and UI, resulting in seamless user experience and 40%reduction in sync errors.
* Architected backend systems with scalability and data consistency in mind, supporting **real-time updates** for user playlists and cross-service music libraries.

**HACKATHON WEB APPLICATION (Sponsored by MongoDB) | BACKEND DEVELOPER**

*Built in 48 hours to support restaurants in distributing leftover food to low-income and homeless individuals*

* Collaborated with a team of 4 to design and launch a web platform enabling restaurants to list surplus food for end-of-day pickup, promoting food security and reducing waste.
* Developed and deployed a RESTful API in Flask to handle real-time listing, retrieval, and updates of food availability, supporting efficient matching between providers and recipients.
* Integrated MongoDB for dynamic data storage and retrieval, optimizing query performance under rapid prototyping conditions.
* Ensured seamless communication between frontend and backend, enabling a user-friendly interface that handled real-time updates and location-based food listings.
* Prioritized scalability and fast deployment, delivering a fully functional MVP within 48 hours under strict hackathon constraints.

**RELEVANT EDUCATIONAL COURSEWORK**

* Collaborated with an interdisciplinary team using the agile method to deliver innovative solutions, coordinated project timelines, tasks, and resources effectively, and communicated project progress and updates with stakeholders.
* Solved multiple reverse engineering problems mainly in x64 architecture. Using static analysis, and dynamic analysis tools such as GDB and Ghidra.
* Implemented a basic context free security analysis tool. Determining if confidential data could leak from LLVM source code.
* Developed desktop software applications using multiple programming languages such as Python, Java, C, C++.
* Designed and implemented a compiler for a C++-like programming language, including lexical analysis (Flex), syntactical analysis (Bison), semantic analysis, optimization, and code generation(x64).
* Designed and implemented a custom Bash-like terminal in **C** that processes user input, executes commands, and supports multiprocessing. Doing so by interacting with the Linux operating system.
* Implemented various algorithms and data structures (Sorting, Divide and Conquer, Dynamic Programming).