5528 Forest Bend Dr.
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# Joshua Johnson

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View My Portfolio

## Education

**Grand Valley State University**                                         **May 2026**

- B.S.E. in Computer Science with a minor in Mathematics GPA: 3.4
  Coursework: Data Structures and Algorithms, IOS App Development, Discrete Structures, Linear Algebra, Computer Organization

## Projects

**Self-Moving Chess Game (link to video)**

- Created a chess set that processes moves in real-time and physically moves pieces against the player.
- Built an 8x8 grid of magnet detectors connected to 8 daisy-chained shift registers.
- Used C++ to bit-shift binary switch data to update an 8-byte variable describing the current board state.
- Compared board states to detect moves and control piece movements seamlessly.
- Designed this project out of a passion for chess and to strengthen hardware and software integration skills.

**Roam**

- Developed a mobile app designed for travelers.
- Card style travel journaling where saved locations are cards with the name, photo, timestamp, and notes.
- Integrated Google Places API to retrieve metadata based on the users location.
- Used Firebase to store user data securely in real-time, enabling easy access across devices.
- Built an interactive world map that displays each saved location as a pin access to its card.
- Designed to encourage exploration and make travel journaling seamless and automatic.

## Employment

**IT Technician**                    **Grand Valley State University**                    **August 2023 – Current**

- Diagnosed and resolved software and hardware issues, ensuring minimal downtime and efficient operation.
- Assisted in the setup and configuration of audio-visual equipment and networking hardware for campus events, supporting smooth and successful execution.
- Collaborated with the IT team to optimize system performance and streamline technical processes.

**Freelance Wedding Photographer**    **Joshua's Photography (link to website)**       **August 2024 – Current**

- Captured and edited stunning photos that narrate the couple's love story.
- Collaborated with clients to capture special moments in the way they envisioned.
- Managed all aspects, including pre-event consultations, shooting, and post-production editing.

## Skills

**Programming Languages**

- C, C++, Python, Java, Assembly, JavaScript, Swift, Kotlin

**App Architecture**

- MVVM, RESTful APIs, Firebase, Lazy loading, Dependency injection

**Embedded Systems**

- ARM, AVR, ESP32, RTOS, Bare-metal Programming

**Hardware Integration**

- I2C, SPI, UART, GPIO, ADC/DAC, PWM

**Testing**

- Unit Testing, Integration Testing, JTAG, SWD, Logic Analyzers, Valgrind

## Interests

- Soccer, Legos, Gardening, Sewing, Robotics, Woodworking, Photography