

# Yonatan Reich

CS student

050-331-8885 | [yonatan.reich@gmail.com](mailto:yonatan.reich@gmail.com) | Ramat Gan, Israel

[My Linkedin](#) | [My Github](#) | [My personal Site](#)

## ABOUT ME

Motivated Computer Science student at Bar-Ilan University with a dual passion for low-level systems programming and high-performance creative web development. I love bridging the gap between rigorous backend architecture and interactive frontend experiences. Always seeking to build scalable, optimized software that solves complex problems.

## EDUCATION

### Bar-Ilan University

Ramat Gan, Israel

Bachelor of Science in Computer Science

Expected Graduation: Summer 2027

- **Relevant Coursework:** Data Structures, Algorithms, Operating Systems, Discrete Mathematics, Object-Oriented Programming, Systems Programming.

## TECHNICAL SKILLS

**Languages:** C, C++, JavaScript, Java, Python

**Web Technologies:** Node.js, Express.js, React.js, React Three Fiber (R3F), Three.js, HTML5/CSS3

**Systems & Tools:** Linux, Git, Docker, GCC, GDB, Low-level Debugging, Multithreading

**Core Concepts:** Data Structures & Algorithms, OS Kernel Development, RESTful APIs, 3D Graphics Math, Computer architecture

## PROJECTS

### [Interactive 3D Physics Engine & Portfolio](#) | React, Three.js, R3F, Cannon.js

Jan 2026

- Architected a high-performance 3D web application integrating a physics engine with a React frontend to showcase technical projects.
- Implemented complex vector mathematics and raycasting for a custom "projectile" interaction system, allowing users to interact with UI elements via 3D collisions.
- Optimized rendering performance using React hooks to manage game loops and minimize garbage collection overhead, ensuring 60FPS on varied hardware.
- Designed a responsive glassmorphism UI system with dynamic state management to handle modal transitions and audio state without re-rendering the 3D canvas.

### [High-Performance Cloud Storage Service \(Drive Clone\)](#) | Node.js, Express, C++, Docker

Ongoing

- Developing a scalable file storage service mimicking Google Drive architecture with a focus on I/O performance.
- Building a custom native C++ addon for Node.js to handle performance-critical file operations, bridging high-level JavaScript with low-level system calls.
- Containerizing the application using Docker to ensure consistent deployment across different environments.
- Implementing a RESTful API with Express.js to manage file uploads, retrieval, and directory structures.

### [Sankey Job Hunter](#) | React, Data Visualization, LocalStorage

Ongoing

- Developing a job application tracking dashboard that visualizes the recruitment funnel (Applied → Interview → Offer) using dynamic Sankey diagrams.
- Implementing algorithms to transform raw application data into directed graph structures suitable for visualization rendering.

- Designing a client-side persistence layer to securely store user data locally without requiring a dedicated backend.
- Focusing on responsive UX design to allow intuitive drag-and-drop management of job application statuses.

## LANGUAGES

---

**Hebrew:** Native

**English:** Fluent