Shay Frishwasser

Junior Backend Developer

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Summery   
High school student passionate about software development and entrepreneurship, self-taught and experienced in teaching programming, robotics, and Arduino. Member of the technical team for municipal ceremonies.

Skills

Programming Language: Python, Javascript, PHP, react, C#...

Database:

Cyber:

Education

2025-current : Magshimim -The National Cyber ​​Program for Outstanding Youth

2025-Current: Ort Bialik , Studies in 5 extended units in the subjects: Physics, Software, Mathematics, English

I received awards of excellence from the CEO of the ORT Network, the mayor,

awards for first places in national competitions for robotics, physics and chemistry, including an award for groundbreaking thinking, and I led joint projects with the National Road Safety Authority (הרלב"ד) and the Disabled Association.

Experience & Personal Project

2024-Present – ​​ORT Dafna, Kiryat Bialik - Teacher in the ORT network for software, robotics and Arduino subjects, as well as a presenter for the PFM exams of the Scientific and Technological Reserve

**Project:** Volleyball analyzer  
**Technology:** Python, OpenCV, YOLOv5, Flask, HTML, CSS, JavaScript

Developed a real-time volleyball serve analysis system that processes user-uploaded videos to isolate the ball’s trajectory and provide tailored improvement tips. Overcame outdoor lighting challenges through advanced image enhancement techniques, enabling accurate ball tracking with YOLOv5 and OpenCV.

**Project:** Marine Debris Detection System  
**Technology:** TensorFlow, Flask, Python, HTML, CSS, JavaScript, Pandas, Matplotlib, ReportLab

Developed an automated web-based system that enhances underwater images and accurately detects and classifies marine debris using a custom-trained TensorFlow model. Generates interactive visual reports with detection confidence and detailed downloadable PDFs, integrating a secure login system for organizational use.

**Project:** SEE SHARP – C# Code Testing and Grading System  
**Technology:** C#, MySQL, PHPMailer, SMTP, PDO, TLS, HTML, CSS, JavaScript, Compiler, Hashing, Prism.js, Input Validation, Sandboxing

Developed a comprehensive web platform enabling students to submit C# code assignments which are automatically tested against predefined inputs and outputs for grading. Features include plagiarism detection via hashing, role-based access for teachers and students, secure multi-step authentication, sandboxing, emails, hashing and grade management with exportable Excel reports.

**Project:** Dash Ort System  
**Technology:** Node.js, HTML, Apache, Google Sheets API, Anti-DDoS mechanisms  
A secure Node.js-based platform enabling users to send, store, and retrieve greeting messages with dynamic real-time updates every 10 seconds. Implements XSS protection, forbidden word filtering, and robust input validation for safe user interaction under heavy concurrent use (up to 100 users).

**Project:** Tash Net – Unit Communication & Management  
**Technology:** Node.js, HTML, CSS, Apache, Email Integration, Anti-DDoS  
Tash Net is a secured, Hebrew-language web platform for managing military personal support (ת"ש) requests, including form submissions, rights database, and eligibility calculators. Built with Node.js, HTML/CSS/JS and hosted on Apache, it supports up to 100 concurrent users with built-in anti-DDoS protection, input sanitization, and responsive design. The system includes smart forms, dropdowns, email integration, and dynamic rights logic — all without machine learning, based on custom rule mapping.

**Project:** AI-powered Discord Bots & Ticket Management  
**Technology:** Node.js, Python, AI Models, Apache  
Developed AI-enhanced Discord bots capable of managing up to 10 simultaneous tickets, automating responses based on custom tag recognition models, and integrating IP-based product eligibility with encrypted file management for FIVEM CFX assets.

**Project:** Real-Time FIVEM Anti-Cheat & Exploit Prevention  
**Technology:** Lua, HTML, CSS, JavaScript, Node.js, CFX Assets  
Implemented real-time anti-exploit mechanisms with front-end and client-side validation to prevent abuse. Features IP-based purchase verification with admin panel controls and trigger-based protection tailored for FIVEM environments.

**Project:** AI-Based Swimming Technique Monitoring  
**Technology:** OpenCV, TensorFlow, Matplotlib  
Developed an AI-driven system that continuously analyzes swimming styles and detects incorrect movements, providing actionable feedback for technique improvement. Includes adaptive learning for personalized coaching.

**Project:** Real-Time Driver Drowsiness Detection System  
**Technology:** OpenCV, Matplotlib, Real-time Video Analytics  
A real-time fatigue detection system that monitors facial cues and head movements to alert drivers visually and audibly. Employs adaptive algorithms to minimize false positives and learn individual driver behavior over time.

**Project:** Delivery Route Optimization & Driver Management  
**Technology:** Visual Studio, Dijkstra Algorithm, Simulation Software  
Designed a delivery management platform optimizing driver assignments and routes using Dijkstra’s algorithm, enabling multiple pickups per driver. Achieved breakthrough recognition at FLL Robotics Competition (2022).

**Project:** Interactive Educational Escape Rooms for Hospitalized Students  
**Technology:** HTML, CSS, JavaScript  
Created award-winning interactive digital escape rooms aimed at engaging hospitalized students through gamified learning, winning first place at the ISTEAM ORT National Competition (2022).

**Project:** Assistive Device for Medicine Bottle Opening  
**Technology:** Mechanical Engineering, Vacuum Systems, UI Design  
Developed an innovative device for users with limited hand mobility that automates medicine bottle opening without requiring simultaneous two-hand operation. Awarded third place at ISTEAM ORT Makers Category (2023).

**Project:** AI Chatbot for Interpreting Emoticons for People with Communication Challenges  
**Technology:** Node.js, Frontend, Brain.js AI Framework  
Built a conversational AI chatbot using tag-based recognition to help users with communication difficulties understand emoticon meanings through guided dialogue. First place winner at “I Can Too” competition by the Ministry of Education and Yad Sarah (2022).

**Project:** Public Dog Waste Collection Reward Platform  
**Technology:** Node.js, Web, jsQR, JWT, UUID, Geolocation API, TensorFlow.js, MySQL  
Implemented a city-wide reward system in collaboration with Kiryat Bialik municipality, combining QR code scanning, GPS/time validation, image verification, and SQL-based anti-fraud mechanisms. Award-winning broad project at Bar-Ilan University competition (2023).

**Project:** Household Water Usage and Purification Control System  
**Technology:** Software Simulation, Activated Carbon Filtration Model  
Developed software to manage water consumption based on household occupancy and an activated carbon water purification simulation. Achieved third place at 100CC Competition (2023).

**Other Achievements and Competitions**

* Third place, Ramon Middle School Olympiad (2023)
* Participation in Google, Salesforce, and Ministry of Education’s Advanced Technology Festival (2022)
* SALL Environmental Activism QR Treasure Hunt Game (2022)
* Energy Balance Home Management Software (2022)
* P2L Collaborative Learning Management System (2022)

Volunteering

2024-Current -Member of the municipal team responsible for digital (sound, lighting, and visual displays) at the Holocaust Remembrance Day and Memorial Day ceremonies.