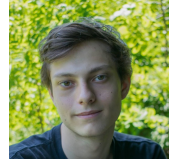


Stefan-Daniel Wagner

Systems & Backend Engineer | C/C++, Linux, .NET, Python | Security & Math | Teaching
Bucharest, Romania | wagner.daniel98@yahoo.com | danielwagner.ro | github.com/danielw98 | LinkedIn

Running now: daw.danielwagner.ro (platform, 90+ users) | prng-nist-tests.student-dev.ro (C++ in-browser) | mcs.danielwagner.ro (exploit-chain analysis)



Profile

I design, deploy and operate ~ 10 production services across two VPSes I own end to end, and I built the platform 90+ students use for their labs. C is my first language (Linux userspace: IPC, sockets, pthreads) and C# my second (.NET with clean architecture and TDD); I also work in C++17, Python, Java and TypeScript. Four first-author papers are under review at IEEE ICCP 2026.

Experience

Independent Engineer – Production Infrastructure

2023 – present

danielwagner.ro / student-dev.ro (self-hosted)

- Design, deploy, and operate ~ 10 live services across two VPSes: Docker, nginx, TLS automation (Let's Encrypt), PostgreSQL, rsync deploy pipelines; drilled, SHA-256-verified backups.
- Multi-tenant hosting for ~ 30 student deployments: per-student Linux accounts, nginx vhosts, SAN certificates, provisioned from a web admin UI on an isolated, sacrificial VPS.

Lab Instructor, Web Application Development (DAW)

Oct 2025 – present

Faculty of Mathematics and Computer Science, University of Bucharest

- Teach the DAW labs to 90+ students across four groups; author the course materials.
- Built and operate the full course platform: public labs site plus a gated dashboard for attendance, grading, quizzes, and project tracking; re-implementing it in .NET 10 + Angular with clean architecture and TDD (production cutover attempted, rolled back pending semester close).
- Per-student deployment slots on a dedicated VPS, provisioned from the admin UI.

Teaching, Mathematics and Computer Science

2019 – present

Faculty of Mathematics and Computer Science, University of Bucharest, and independent

- Lab Instructor, OOP in C++ and Web Development in C# (PAW), 2023–2024: taught by live-coding with the students; authored the full-semester public materials (GitHub: Info-POO-Laborator, CTI-PAW); ran an optional SFML game-development track.
- Private tutor since 2020: ~ 60 students from a dozen universities across ~ 30 subjects, from mathematical analysis and linear algebra to C/C++, algorithms, Linux systems programming, assembly, cryptography and databases; distilled into a 17-course catalogue (187 lessons) on my own portal.
- Volunteer peer tutor (tutoriat), faculty-organized: Special Mathematics 2019–2020, C Programming and Operating Systems 2022–2023.

Selected Projects

[public repos](#) or [live deployments](#), ordered by impact

- **DAW teaching platform:** full-stack course platform live in production for 90+ students, four groups: labs, grading, quizzes, per-student deploy slots; .NET 10 + Angular rewrite in development. daw.danielwagner.ro
- **Production infrastructure:** the two-VPS estate everything above runs on; tested PowerShell control plane, drilled SHA-256-verified restore path, internal ops tooling. danielwagner.ro
- **NIST SP 800-22 suite:** all 15 tests from scratch in C++17 (team of four), runnable in-browser; my DFT deep dive found an error in NIST's own worked example. prng-nist-tests.student-dev.ro
- **Zero-click exploit chain analysis:** hands-on heap and stack corruption labs tracing the 2025 WhatsApp/ImageIO chain. mcs.danielwagner.ro
- **JPEG encoder:** baseline encoder in C++, DCT, quantization, zigzag, entropy coding from scratch; compression-ratio analysis. [github](https://github.com)
- **Edu course portal:** multi-course learning platform (.NET 10, Angular, PostgreSQL); 17-course catalogue, UI-published. edu.student-dev.ro
- **Games written from scratch:** SDL2 titles in C++ (Bubble Shooter, Tower Defense, Firefly Fantasies), terminal Breakout in C/ncurses, Reversi (alpha-beta) and Septica in Python, Cat Corner in Java.
- **Electromagnetics course site:** Manim animations plus p5.js interactive simulations for the E&M course, built around the professor's own lecture material. be.student-dev.ro
- **Neural network framework:** feed-forward NN in C++ from scratch: layers, backpropagation, SGD optimizer, no ML library.

- **Numerical methods library:** C++17 root-finding and Gaussian elimination with pivoting, built to study stability trade-offs. [github](#)
- **Also:** enrollment vs GDP analysis (174 countries, Python/pandas); Flash-era game preservation, the M.Sc. thesis build, in progress; a VR tower defense in Unity/C# (bachelor's thesis); classic C/C++ systems work (Chandy-Lamport snapshots, WinAPI wrapper, C lexer, thread-pool TCP server, image processing, Huffman); web and scripting coursework. github.com/danielw98

Publications & Research

- **IEEE ICCP 2026**, Cluj-Napoca, Oct 2026 – four papers submitted Jul 2026, first author on all four (with E.-C. Popovici, L. Boicescu, T.-C. Ureche); under review, notification Sep 2026. danielwagner.ro/papers
 - *Hypothesis, Not Syntax* – the human-AI boundary in vulnerability discovery; 86 CVEs classified.
 - *A Disciplined Framework for Human-in-the-Loop LLM Coding Agents* – ~680 logged sessions.
 - *Whitening, Not the Classifier* – eigenfaces-SVM on LFW; SCSS 2026 first place among the master's presentations.
 - *The Zero-Line Graduate* – subsidized AI and artifact-based grading.
- **Zero-Click, Old Tricks: anatomy of the 2025 WhatsApp/ImageIO exploit chain** – SCSS 2026, Faculty of Applied Sciences, POLITEHNICA Bucharest (with D. Oltean, V. Matveev). mcs.danielwagner.ro/paper
- **NIST SP 800-22: all 15 randomness tests implemented from scratch in C++** – the spectral (DFT) test analyzed in depth, and a documented error in NIST's own published worked example. prng-nist-tests.student-dev.ro
- **DSP techniques in image compression: implementing a JPEG encoder** – M.Sc. research paper (TCSI 2026); companion presentation on Fourier, filter banks, Mallat, JPEG vs JPEG 2000. dsp.danielwagner.ro

Education

M.Sc., Coding Theory and Information Storage (TCSI)

2025 – 2027

Faculty of Applied Sciences, National University of Science and Technology POLITEHNICA Bucharest

- Focus: coding theory, cryptology (cryptography and cryptanalysis), cybersecurity, information compression.
- First-year coursework already shipped as live services (the publications above). Thesis in progress: security analysis and preservation of Flash-era browser games.

Engineer's degree (B.Eng.), Computers and Information Technology (CTI)

graduated 2023

Faculty of Mathematics and Computer Science, University of Bucharest – 240 ECTS, overall GPA 9.33/10

- Engineering core: computer architecture, microprocessor systems, analog & digital electronics, control systems, robotics, mechanics, electricity & magnetism.
- CS core: operating systems, distributed systems, cryptography & security, web development, algorithms, databases, signal processing, parallel architectures, and the full mathematics track.
- Electricity & magnetism became the interactive electromagnetics course site I later built around the professor's own lecture material, which ties the engineering layer to the software layer.

Skills

Systems: C, Linux internals, C++17, POSIX, sockets & networking, CCNA 1 & 2 (Cisco Networking Academy), pthreads & IPC, MPI, assembly (x86, MIPS, 6502), WinAPI, SDL2 | **Hardware & EE:** computer architecture, microcontrollers (8051, Arduino), FPGA & Verilog, analog & digital electronics, control systems, robotics | **Backend:** C#, .NET 10, ASP.NET Core, EF Core, REST, JWT & Identity, PostgreSQL, SQL Server, SQLite, Flask, Node/Express, Java | **Security:** applied cryptography, NIST SP 800-22, memory corruption, exploit-chain analysis, CVE research, reverse engineering, server hardening | **Math & ML:** NumPy, scikit-learn, OpenCV, pandas, PCA/SVM, FFT & spectral analysis, numerical methods, statistics, Manim, $\LaTeX$ | **Frontend:** Angular, TypeScript, React, Next.js, Tailwind | **Ops:** Linux servers, Docker, nginx, TLS & Let's Encrypt, PowerShell automation, backup & disaster recovery | **Practices:** TDD, clean architecture, code review, technical writing, curriculum design | **Languages:** Romanian (native), English (C1, IELTS), German (conversational)