

Tom EFFERNELLI

Portfolio: tom-effernelli.vercel.app
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Education

- Telecom Paris, Polytechnic Institute of Paris** | *Grande Ecole Engineering Diploma* Paris, FR | **2024 – 2027**
- One of France's most prestigious general engineering schools in the Grandes Ecoles system. Equivalent to a top-tier university specialized in engineering studies.
 - Specialized in Data Science & AI and Cybersecurity: Statistical Learning, Deep Learning, Natural Language Processing (NLP), and Optimization; Network Security, Advanced Cryptography, Cyberattacks (Pen testing), PKI, and Vulnerability Auditing.
- Sorbonne Université** | *B.Sc. in Mathematics* Paris, FR | **2025 – 2026**
- Prestigious French university degree covering core areas of pure and applied mathematics, including analysis, algebra, probability, topology and statistics.
- Lycée du Parc** | *Preparatory Classes in Mathematics, Physics and Computer Sciences* Lyon, FR | **2022 – 2024**
- Post-secondary top-tier preparation program for the competitive entrance examinations to French Engineering Schools in the Grandes Ecoles system.
- French Baccalaureate** | *Highest honors with jury congratulations* Aix-en-Provence, FR | **2022**
- French Baccalaureate obtained with the highest possible distinction.

Professional Experience

- Télécom Paris Students Union Board** | *Community manager, student integration* Member | **04/2025 – 04/2026**
- Designed promotional materials, managed social media for student life and school events.
 - Organized major Student Union activities such as new student integration and campaign events.
- Alcatel Submarine Networks** | *Internship in Telecommunications* Intern | **07/2025 – 08/2025**
- Global leader in submarine telecommunications cable design.
 - Computer-aided modeling, prototyping, numerical simulations, and optical data analysis applied to quality control.
- Eurofins EAG Laboratories** | *Internship in Theoretical Physics* Intern | **04/2022 – 05/2022**
- Company specialized in physico-chemical interface analysis.
 - Analysis and exploitation of experimental data, creation of digital content to promote a new piece of equipment (youtu.be/iQLEkX8hljw).

Achievements

- Stochastic Texture Generator** 12/2025
- Procedural texture synthesis solving tiling on large surfaces via stochastic processes and blending. Transforms source textures into seamless materials without perceptible repetitive patterns.
 - Available online: tom-effernelli.vercel.app/project-page-dev-stochastic-texture
- Transformer-based Language Model (from scratch)** 11/2025
- Implemented a LLM from scratch based on the 'Attention Is All You Need' paper, using the Transformer architecture and multi-head self-attention mechanisms in PyTorch. Available online: tom-effernelli.vercel.app/project-page-dev-small-llm
- Personal Portfolio Website** 09/2025
- Developed a personal portfolio showcasing software and graphic design projects. Using Next.js, React, Tailwind CSS, with a focus on responsive design and accessibility. Available online: tom-effernelli.vercel.app
- Hackathons & GameJams** | *Participant and organizer*
- Coding competitions participation: Top2 Sorbonne University GameJam, Top5 Ecole 42 hackathon...
 - Organizing the Hack the Fork (hackthefork.com) hackathon on sustainable food: sponsorship, mentor/participant recruitment, communication.

Skills

Languages: C, C# (+ Unity), Python, Javascript, HTML, CSS
Frameworks: Next.js, React, Tailwind CSS
Tools: Git, Responsive design
Social: Community management, event planification, project management
Languages: French (native), English (C1), German (B1), Spanish (A1)
Arts: Piano (9 yrs conservatory), DJing, Adobe Suite (Photoshop, After Effects, Premiere Pro), Theater (4 yrs)