

# Arthur PINEL

Engine / Systems Programmer - C++

Paris, France  
Open to international positions  
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## Profile

Engineering student at **ENSIIE** specializing in **engine programming** and **real-time systems**. Professional experience in **C++** for **3D engines**, **multiplayer networking**, and **performance optimization**. Highly interested in **engine architecture** (ECS, Scene Graph), **low-level systems**, and **real-time rendering**. Seeking an **international internship** in game development focused on **Engine, Tools, or Gameplay**.

## Skills

- Core Systems** C++ (Modern 17/20), Engine Architecture (ECS, Scene Graph), Memory Management, Entity Pooling, Multithreading.
- Maths** Linear Algebra (Vectors, Matrices, Quaternions), Trigonometry, Geometry for Collisions.
- Networking** Real-time Client/Server architecture, Packet Serialization/Compression, Movement Prediction (Kalman Filter).
- Graphics** OpenGL, Rendering Pipeline, Scene Graph management, 3D Real-time Visualization.
- Tools** Git, CMake, Visual Studio, Linux, Unity.
- Languages** French (Native), Spanish (Native), English (TOEIC B2 - Professional working proficiency).

## Experience

- 2025–Present** **Software Engineer**, *Dassault Systèmes*, Apprentice
- Actively maintaining and optimizing a high-performance 3D scene graph using C++.
  - Refactoring and modernizing legacy codebases to C++17/20 standards.
  - Building internal debugging tools to improve engine development workflow.
  - Implementing Unit Tests to ensure engine stability and prevent regressions in core systems.
- 2024–2025** **Game Programmer**, *WebGames*, Freelance
- Enhanced a proprietary game engine by implementing core systems and gameplay mechanics.
  - Optimized spatial partitioning using a QuadTree for efficient collision detection.
  - Developed behavioral AI systems to simulate player movement and decision-making.
- 2024** **Network Programmer**, *WebGames*, Internship
- Architected a multiplayer system using an authoritative server model.
  - Implemented custom serialization and data compression for network packets.
  - Developed smooth client-side synchronization and movement prediction using a Kalman Filter.

## Projects

- 2025** **BrotaFEUR - 2D RogueLike Game Engine**, C++, SFML, CMake
- Developed a custom entity system, managing rendering, and collision engine.
  - Integrated a multi-threaded architecture and a CLI-based logging/debugging system
- 2025** **FEURnite – Battle Royale**, Unity, C#, Photon
- Served as Lead Developer and Architect for a multiplayer Battle Royale project.
  - Implemented network synchronization for complex inventory and combat systems.

## Education

- 2025–2028** **ENSIIE**, *Master of Science in Computer Engineering*, France  
Diplôme d'ingénieur - Game Development Club Member, Game Jam Participant : CStudio Game Jam, UNIJAM
- 2022–2025** **Université Paris-Saclay**, *Bachelor of Science in Computer Science*, France  
BUT Informatique - Specialization: Application Development.