PAU BADIA VILLANUEVA

Game Programmer
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💻 GitHub: [Under development]
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PROFESSIONAL PROFILE

Game programmer specialized in C++/C# with experience in engines such as Unreal Engine 5 and Unity. Strong knowledge in OpenGL rendering and modular game systems development. Practical experience in team projects and optimization tools development.

PROFESSIONAL EXPERIENCE

Gameplay Programmer | Hell Hound Games, Valencia   September 2024 - Present

- Member of the programming team for Elysian Siege: The Prince's Uprising
- Implementation of ranged enemy mechanics and interactions
- Creation and implementation of pickup systems
- Complete integration of the game's audio system
- Development of particle effects for the project
- Implementation of object pooling for enemies, particles, and pickups

Waiter | Restaurant   2021 - March 2025

- Customer service and teamwork under pressure
- Management of multiple simultaneous tasks

Volunteer | Xaire
Nuestra Señora del Pilar School, Valencia   2021 - 2022

- Educational support and mentoring activities
- Community service and social responsibility

FEATURED PROJECTS

Custom Rendering Engine (Academic Project, 2025)
- Lightweight rendering engine developed with OpenGL
- Implementation of modern techniques: forward and deferred shading
- Optimized for multiple hardware configurations

Elysian Siege: The Prince's Uprising (Final Academic Project, 2025)
- 2.5D Platform game developed in Unreal Engine 5
- Collaborative project with multidisciplinary team

AI Snake (Academic Project, 2025)
- Implementation of Snake game with machine learning
- Use of NEAT (Neuro Evolution of Augmenting Topologies)
- Visualization system every 10 saved generations

TECHNICAL SKILLS

Programming Languages
- **C++/C#** - 3+ years of advanced experience
- **OpenGL** - High-performance rendering solutions development
- **ARM Assembly** - Basic knowledge of low-level development
- **Kotlin** - Mobile development with Jetpack Compose

Game Engines
- **Unreal Engine 5**
- **Unity Engine**

Tools and Technologies
- **Version Control**: Git, Perforce
- **Graphics APIs**: OpenGL
- **Design Patterns**: OOP (Object-Oriented Programming) and systems architecture
- **Optimization**: GPU workloads and performance

EDUCATION

HND in Videogames Programming
ESAT (Escuela Superior de Arte y Tecnología), Valencia
 2022 - 2025

Degree in Electronic Technology (Not completed)
University of Valencia
 2019 - 2022

Leisure Time Monitor Certificate
Indoor football coach for children aged 5-7
 2017 - 2019

LANGUAGES

- **Spanish**: Native
- **English**: Intermediate-Advanced (B2)
- **Valencian**

INTERESTS

Game development, artificial intelligence applied to gaming, performance optimization, emerging technologies in computer graphics.