

KALOYAN IVANOV

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PROFILE

I am a curiosity-driven Game Development student at Saxion University of Applied Sciences with a strong background in Gameplay programming using **C#/C++** and **Unity**. However, my **true passion** lies in **Graphics programming**. While I am still in the early stages of Graphics, I am eager to **deepen my knowledge** and pursue it as my **future career**.

As I continue **expanding** my Graphics programming portfolio, my **strong foundation** in **3D Mathematics** and **Programming** allows me to focus on **mastering rendering techniques** more efficiently.

COURSEWORK & SKILLS

First Year

Sep 2023 - Jul 2024

- Learned how to apply my **C# knowledge** to gameplay, physics and algorithms programming by utilizing a custom-made 2D game engine by the teachers.
- Developed my first fully functional Unity 3D Game, applying various **Software Architecture** techniques to ensure **maintainability** and **scalability**.
- Completed supplementary courses covering **Game** and **UI/UX design**, as well as professional skills like **Communication** and **Research**.

Second Year

Sep 2024 - Jul 2025 (Expected)

- Pursued advanced coursework in Graphics programming, with a focus on **3D Mathematics**, **C++**, and **3D Rendering using OpenGL**.
- Familiarized myself with more **Software Architecture** techniques, by applying **SOLID principles** and various **design patterns** while developing a Unity 3D Tower Defense game.

Group Projects

- Collaborated on multiple **group projects** (2-3 weeks), working closely with Engineers, Designers, and Artists to develop unique games.
 - **Effective communication** and **strong teamwork** allowed us to **navigate challenges** in a fast-paced development cycle and **successfully achieve our goals**.
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TECHNICAL SKILLS

- **Programming Languages:** C#, C++, OpenGL (GLSL)
- **Tools:** Unity, SFML, GXPEngine (developed by teachers), Git, Visual Studio
- **Additional Technologies:** Figma, Tiled, Java, HTML, CSS (SASS), JavaScript (jQuery), MS SQL, ASP.NET Core MVC, Elixir, Erlang

PROJECTS & EXPERIENCE

3D Rendering with OpenGL

Nov 2024 - Present

- Independently studying OpenGL to expand my knowledge of real-time rendering.
- Thoroughly worked through the first two chapters of the 'LearnOpenGL' book, focusing on **Coordinate Spaces**, **Camera Behavior**, and the **Phong Lighting Model**.
- Developed an interactive scene with Unity-style navigation, featuring real-time lighting from **Directional**, **Point** and **Spot lights**.

C++

Sep - Nov 2024

- Participated in a **C++** course, exploring key concepts such as memory management through pointers and references, **CONST-ness**, OOP principles like **constructors** and **destructors**, **File I/O**.
- Designed and developed a **2D Battle Game** using the **SFML framework**, implementing game object hierarchy, scene setup by mapping JSON data into game objects, sprite animations, and persistent **high-score tracking** between sessions.
- Scored **10/10** on my final assessment.

3D Math

Sep - Nov 2024

- Completed a **3D Mathematics** course based on the '3D Math Primer for Graphics and Game Development' book, covering key topics such as **Coordinate Systems** and **Matrix operations**.
- Found this course particularly **intriguing** due to its applied nature, allowing me to grasp real-world use cases intuitively and **retain knowledge** more effectively.
- Scored **9/10** on my final exam.

HellFryer – Unity 3D Split-Screen Co-op Game

Jan 2025

- Developed as part of a 3-week group project with a team of 6, including Engineers, Designers, and Artists.
- Established a clear **Git workflow** and code architecture, ensuring maintainability using **SOLID principles** and **design patterns**.
- Responsible for implementing the **co-op gameplay**, role-switching mechanics, hunting equipment, monster behaviors, and part of the **hostile items'** interactions.
- Successfully managed project complexity, meeting all planned milestones within the deadline.
- Achieved a final project score of **9/10** due to strong teamwork, organization, and execution.

EDUCATION

Bachelor of Creative Media and Game Technologies

Sep 2023 - Jul 2027 (Expected)

Saxion University of Applied Sciences

- Specialization: Game Engineer - Focus on Gameplay and Graphics programming

Mathematics and Computer Science

Sep 2018 - Jun 2023

High School of Mathematics "Dr. Petar Beron"

ADDITIONAL EXPERIENCE

Functional programming Software Development

Aug - Dec 2022

Internship at Quanterall Academy

- Erlang and Elixir software development

C# Web development

Feb 2021 - Nov 2022

Software University (SoftUni)

- C# with MS SQL and ASP.NET Core MVC framework software development.

LANGUAGES

English - C1

Bulgarian - Native

IMAGES



