ARZU MERT
Game Developer
Istanbul, Turkey | +905376865926 | mertarzu@yahoo.com
linkedin.com/in/arzumert | mertarzu.github.io

SUMMARY

A versatile game developer with a background in physics and over a decade of experience in programming. I specialize in gameplay systems using Unreal Engine 5 with Blueprint and C++, and I approach development with both analytical precision and creative problem-solving. I'm passionate about designing interactive systems that feel intuitive and meaningful to players, and I thrive on learning, iterating, and pushing ideas forward through hands-on experimentation. I value clean architecture, thoughtful design, and the challenge of turning abstract concepts into engaging gameplay.

SKILLS

- **Programming Languages:** C++, Blueprint
- **Game Development:** Gameplay Programming, Gameplay Systems, Game AI, Game Physics, RPG Mechanics, Gameplay Ability System (GAS), Turn-Based Systems, Level Design, UI/UX Design
- **Tools:** Unreal Engine 5, Visual Studio, Git, Figma, Blender
- **Operating Systems:** Windows, Linux, macOS

RELEVANT EXPERIENCE

Indie Game Developer, Oct 2023 - Present**,** Self-Employed, Bursa, Turkey

- Designing and developing "Lulu The Cat and the Fishes of Finora", a sci-fi RPG blending exploration, fishing, and strategic decision-making.
- Specializing in gameplay systems using Unreal Engine 5.5 (Blueprint & C++), including UI, dice mechanics, RPG progression, and spaceship navigation.
- Implementing the Gameplay Ability System (GAS) to support skills, perks, and character development.
- Modeling stylized, low-poly 3D assets in Blender and designing UI concepts in Figma.
- Iteratively refining mechanics and customizing Unreal Marketplace assets to fit the game's unique vision.

Game Developer, Dec 2022 - Sep 2023, MultiPlayer, Remote, Turkey

- Refactored the existing codebase and introduced small new features to a multiplayer board game, significantly improving code efficiency and gameplay quality.
- Upgraded the AI of a multiplayer board game from basic to sophisticated, leveraging the NegaScout algorithm. This enhancement dramatically increased the game's challenge level, shifting from easily predictable to a near-impossible-to-beat AI. A chance factor was introduced to maintain gameplay enjoyment and balance, adding unpredictability and further engaging players.

Game Developer, Mar 2022 - Sep 2022, Cube Games, Remote, Turkey

- Developed prototypes for hyper-casual mobile games using the Unity3D engine and C#.
- Planned, designed, and implemented game core and mechanics.
- Created user interfaces and incorporated particle effects and animations.
- Streamlined processes with editor tools, ensuring enjoyable gameplay through level design.
- Committed to continuous learning and deepening understanding of design patterns, SOLID principles, and UML concepts.

Game Developer, Jun 2021 - Aug 2021**,** Dumbbell Games, Remote, Turkey

- Developed hyper-casual mobile game prototypes using Unity3D engine and C#.

Computational Physicist, Mar 2020 - Jan 2021, RADAP, Bursa, Turkey

- Developed multi-threaded Geant4-based C++ simulation applications for medical physics.

Computational Physicist, May 2014 - Dec 2014, Feb 2015 - May 2015, IRADETS, Istanbul, Turkey

- Developed various multi-threaded C++ radiation analysis applications based on Geant4 simulation toolkit for e-linac systems, a designated subunit of the Solar Orbiter Mission, and microelectronics operating in space environments.
- Coded a radiation analysis program using the Spenvis package to evaluate the potential impacts of the space environment.
- Significantly optimized the CAD to GDML Converter program using Open Cascade and Xerces-C++ libraries, resulting in a notable increase in processing speed and efficiency.
- Integrated components of the CAD to GDML Converter application with the QT UI using Python.

Research Assistant, Oct 2006 - Feb 2014, Bogazici University, Istanbul, Turkey

- Responsible for instructing various physics and computational physics courses, including Computer Applications in Physics, Programming with C, Programming with C++, Data Structures and Algorithms, and Computational Astrophysics.
- Supervised physics lab sections and conducted short lectures introducing lab assignments.
- Delivered problem-solving lectures to enhance students' understanding of complex physics concepts.
- Evaluated exams, lab assignments, and homework, and provided constructive feedback.
- Successfully guided students through research and project assignments, nurturing their analytical and programming skills.

Junior Software Developer, Sep 2000-Mar 2001, Veripark, Istanbul, Turkey

- Developed dynamic web applications using ASP, JavaScript, and SQL for interactive user experiences.

EDUCATION

Ph.D. Candidate in Physics, Sep 2007 - Jan 2020, Bogazici University, Istanbul, Turkey
Relevant Course: Advanced Computations in Physics.
Ph.D. Research:

- Monte Carlo Simulations of Dosimetry for the MR-Linac in the Presence of 0.35T Magnetic Field.
- Determination of Attenuation Properties of Materials Used in Protective Devices Against Medical X-Radiation.
- Detection of Ultra-High Energy Cosmic Ray Showers.
- X-Ray Data Analysis of Superclusters of Galaxies.

M.Sc. Physics, Sep 2004 - July 2007, Bogazici University, Istanbul, Turkey
M.Sc. Research: XMM-Newton data analysis of isolated radio-quiet neutron stars.

B.S. Physics, Sep 1993 -Mar 2001, Bogazici University, Istanbul, Turkey
Computer Option Courses: Introduction To Computer Usage, Programming With C, Visual Basic Application and Macro Programming, Database Systems, Internet Information Systems.

TRAINING

English - Advanced, Jan 2003 - June 2003, Richmond Adult Community College, London, United Kingdom

City&Guilds Programming In C++ - Advanced, Jan 2003 - June 2003, Richmond Adult Community College, London, United Kingdom