ARZU MERT
Software Developer
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US Work Authorization Status: I have been selected for the US Diversity Visa (DV) Lottery for 2024. I am awaiting the visa interview process, which is expected around April.

SUMMARY

Dedicated Software Developer with a strong foundation in computational physics and actively developing skills in programming languages C, C++, C#, and Python. Currently expanding knowledge in software development methodologies, multithreading, optimization, and gaining proficiency in Unity for both 2D and 3D application development. Also, I am actively learning Virtual Reality (VR)/Extended Reality (XR) technologies and exploring the Unreal Engine to broaden my capabilities in immersive application development. Recognized for excellent problem-solving abilities, attention to detail, innovative mindset, and a collaborative approach. Committed to learning and contributing growing technical skills and a creative perspective to software development projects.

SKILLS

- Programming Languages: C, C++, C#, Python.
- Software Development: Object-Oriented Design, Data Structures, Algorithms, Multithreading.
- Tools: Visual Studio, Git, Unity3D.
- Operating Systems: Windows, Linux, Mac.

RELEVANT EXPERIENCE

Software Developer, Oct 2023 - Present**,** Self-Employed, Bursa, Turkey

- Programming a basic physics engine, showcasing ongoing expertise in physics programming and real-time simulation in gaming.
- Designing and developing a unique 2.5D game blending visual novels and tabletop RPG elements, featuring innovative physics and music puzzles to engage and challenge players.
- Developing a series of small-scale games to diversify and enhance my portfolio, focusing on various aspects of game development.

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

- Refactored the existing codebase and introduced small new features to a multiplayer board game, greatly improving code efficiency and gameplay quality.
- Enhanced 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 student's 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.

M.Sc. Physics, Sep 2004 - July 2007, Bogazici University, Istanbul, Turkey

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