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Vladislav Valentinov Ivanov

A doctoral student, working in the field of plasma physics. With an additional specialty as a physics teacher.

Having a two year professional career as a software developer. With some experience in the field of computer modelling, concretely in plasma fluid and kinetic simulations. Currently, I am working on modelling non-thermal plasma arc discharges. My other interests involve real time simulations and graphics, and in particular 3d games.

Professional career

2018 - 2019

„C++ games programmer“ at „Gameloft“

2016 - 2018

„Web developer“ at „Clean Code Factory“

Education

2020 - 2022, Sofia University „St. Kliment Ohridski“

doctoral student – „Dissociation of CO₂ through plasma threatment using arc discharges“

2016 - 2018, Sofia University „St. Kliment Ohridski“

master – specialty „Communications and physical electronics“

2012 - 2016, Sofia University „St. Kliment Ohridski“

bachelor – specialty „Communications and physical electronics“

2013 - 2014, „Telerik Software academy“

C# developer, JavaScript developer

Publications

V Ivanov et al 2021 *Plasma Sources Sci. Technol.* 30 085007

V Ivanov et al 2022 *J. Phys.: Conf. Ser.* 2240 012029

Software expertise

Programming languages

- C#
- C++
- JavaScript
- PHP
- Python

Markup languages

- HTML & CSS
- JSON
- LaTeX

Experience as a web developer

- ASP.NET
 - MVC
 - WebForms
- LAMP
 - Apache Web Server
 - MySQL & MariaDB
 - CodeIgniter PHP MVC framework

Experience as a desktop developer

- .NET
 - WinForms
 - WPF
- OpenGL + SDL
- OpenMPI
- OpenMP

Experience with software applications

- Blender3D
- Cadence OrCAD
- Gnuplot
- LabView
- Proteus
- COMSOL

Other abilities

- Fluent in english;
- Experience in working with a Linux environment;

Competitions and Awards

2021, VEIT conference

Presented at the conference.

2021, 47th European Plasma Physics conference

Participated at the conference and won a best poster price for my work.

2017, National students physics conference

Participated at the poster session, presenting the project „Discrete-Event Particle-in-cell solver“

2014, „Applications for a better world“ hackaton

Won first place at the Telerik Academy hackaton, with the „i*“ (idea star) project.

2010 и 2012, NOIT

Participations in the Bulgarian National IT olympiad.

Projects

Ongoing

- 3D game engine: Game development library for the WebAssembly and other platforms. The project also includes the creation of an adventure game. (C++, SDL2, GLES, lib stb)
- COLLADA to binary converter tool: Program that converts geometric and animation 3D scene data, from a COLLADA file to a binary file, with a custom format. This utility program was intended to be used alongside the game engine project. (C++, TinyXML)
- Global illumination pathtracer: A simple pathtracer program, capable of producing renderings of primitive bodies. This project developed mainly because of my curiosity for physically based rendering. (C++)

Previous

- Descrete-Event Particle-in-cell solver (PIC-DES): Asynchronous event-driven Particle-in-Cell solver for simulating plasma systems. This is the project for my master's thesis. In general, the project is aimed at proving the applicability of an innovative particle-in-cell method, namely the Descrete-Event method. The project included the development of several solver programs, one of which is based on the descrete-event approach. (C++)
- Archapter: Web environment for editing and playing electronic gamebooks. (PHP, MySQL, HTML, JavaScript);
- Electronics:
 - Alarm system: Alarm system control module, working with IR sensors. (MicroC, Proteus, Microchip PIC 12F675)
 - LA1201: Software controlled IO device for synthesizing and measuring signals. (MicroC, Proteus, C#.NET, Microchip PIC 18F4550, MCP4922)