

BOBBY ANGUELOV

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CAREER OBJECTIVE

I am seeking an entry level position in the game industry in one of the following roles: AI programmer, game engine programmer, graphics/renderer programmer or gameplay programmer. I have a strong background in artificial Intelligence, computational Intelligence, computer graphics, C++ and low level programming techniques. I am hardworking, dedicated and confident that I will make a great addition to any game development team.

PERSONAL INFORMATION

Date of Birth: October 8th, 1984

Citizenship: Bulgarian (EU), South African

AVAILABILITY

My current contract expires at the end of June 2011. My master's degree will also be completed by that time. Upon completion of my thesis and the expiration of my contract, I am planning on emigrating from South Africa.

SKILLS

Languages: C, C++ (STL), C#, PHP, Java, JavaScript, Labview, SQL, HLSL/Cg, CUDA

APIs: Direct3D 10, Direct3D 11, XINPUT, XNAMATH, OpenGL, Windows API

Technologies: APACHE HTTPD, IIS, Windows Server, Web 2.0 (XHTML, CSS, AJAX), SVN

IDEs: Visual Studio, Dreamweaver

Academic Specialization: Computational Intelligence, Artificial Intelligence, Computer Graphics

EDUCATION

Computer Engineering, Bachelor of Science (incomplete)

University of Pretoria, Pretoria, South Africa

February 2002 - November 2004

Studies focused on electronics, embedded systems, networking, microprocessors and artificial intelligence.

Computer Science, Bachelor of Science

University of Pretoria, Pretoria, South Africa

February 2005 - November 2007

Studies focused on artificial intelligence, 3D computer graphics, software engineering and mathematics.

Computer Science, Bachelor of Science Honors

University of Pretoria, Pretoria, South Africa

February 2008 - November 2008

Postgraduate specialization degree focused on artificial intelligence, computational Intelligence, 3D computer graphics and software architecture.

Computer Science, Master of Science (in progress)

University of Pretoria, Pretoria, South Africa

February 2009 - Present

Research Master's degree in video game artificial intelligence focused on real-time pathfinding in dynamic video game environments.

EXPERIENCE

Computer Graphics Lecturer

University of Pretoria, Pretoria, South Africa

January 2010 to Present

I was tasked with modernizing and presenting the undergraduate and post-graduate computer graphics courses. I restructured the curriculum to focus more on the modern real-time rendering pipeline as well as shader programming. Both courses make use of the Direct3D 10 API and all shader programming was done using HLSL 4.0. The postgraduate course touches on the Direct3D 11 API.

Software Consultant / Web Developer

Energy Cybernetics, Pretoria, South Africa

January 2008 (Contract)

I was contracted to develop a custom intranet system for the management and monitoring of industrial energy systems. The system was developed using my own JATE framework and deployed within 4 weeks.

Senior Web Developer / Webmaster

University of Pretoria, Pretoria, South Africa

June 2005 to December 2009

I was responsible for the maintenance and expansion of legacy CMS codebase. I was also responsible for the complete redesign and implementation of the existing inter- and intranet systems as well as the development of a proprietary postgraduate student performance management system.

Senior Web Developer

Identity Studios, Pretoria, South Africa

January 2005 to June 2005

I was the senior web developer for Identity Studios and was tasked with the design, implementation and deployment of customized web portals. During this period I developed a PHP/MySQL based web development framework for rapid portal development. This system was called "Just Another Template Engine" (JATE) and offered 100% separation between backend code and the front end interfaces. It also included per-page access control, automatic SQL query generators, a customized template language and parser as well as custom LDAP, Mail and security libraries.

Labview Internship

National Instruments, Johannesburg, South Africa

June 2004 to August 2004

I was introduced to the Labview Programming environment and was tasked with developing a simulation test kit for the National Instruments ELVIS system. I also developed a web based statistics and monitoring portal for the ELVIS test kit.

Software Consultant

Freelance, South Africa

December 2001 to December 2005

I worked for 4 years as a software consultant and software developer. I was brought in to develop portions of internal company systems, give advice on the direction of development as well as provide assistance with software architecture designs. I worked on a variety of systems and technologies ranging from ERP to POS systems.

PUBLICATIONS

Title: Fast implementation of the discrete pulse transform of images (UPWT 2008/01).

Publication Type: Technical Report

Co-authored a technical report focused on the extension of the 1D discrete pulse techniques into 2D for use in image processing. Developed a novel approach for the discrete pulse transform termed the fast pulse transform (FPT).

Title: *Discrete Pulse Transform of Images: Algorithm and Applications (ICPR 2008).*

Publication Type: Conference Paper – IEEE International Conference on Pattern Recognition.

I published a paper focusing on real world applications of the discrete pulse transform. These applications included target identification in gray scale bitmaps as well as texture classification.

Title: Pathfinding in Dynamic Video Game Environments

Publication Type: Master's Thesis

My master's thesis is focused on real-time pathfinding in highly dynamic multi-agent video game environments. My thesis was supervised by Professor Andries Engelbrecht. The thesis contains a comprehensive overview of the current state of video game pathfinding as well as present novel work on the topic.

ACTIVITIES & AWARDS

- **IGDA** – Recipient of an IGDA Game Developers Conference Scholarship, 2011.
- **IGDA Foundation** – Recipient of the Annual 'Eric Dybsand' Memorial Scholarship for AI development, 2011.
- **Dojo head**, Menlo Park Karate Club, 2005 – 2007
- **Member**, International Game Developers Association (IGDA)

PERSONAL INTERESTS

- **Gaming** – My favorite game genres are FPSs and RPGs. My favorite games include Fallout 1&2, Baldur's Gate 1&2, Dragon Age, The Witcher, The Call of Duty Series, Counter-Strike, the Battlefield Series as well as the Company of Heroes and Dawn of War series. I used to play counter-strike professionally.
- **Martial Arts** – I hold a black belt in Shotokan Karate, as well as having taken MMA, knife fighting and close quarter's combat courses.
- **Image Processing** – I wrote an outdoor surveillance system for my undergraduate final year project. The system featured a neural network based silhouette identification system which distinguishes between human and animal motion.
- **Reading** – I enjoy reading, my favorite authors include Margaret Weiss and Tracy Hickman, David Eddings, David Gemmel, R.A. Salvatore, Brent Weeks and Andrzej Sapowski.
- **PC Hardware Enthusiast** – I enjoy tweaking and overclocking my machine. Lately I've been really interested in watercooling.