Aaron "Caustik" Robinson

Professional Resume

EMPLOYMENT OBJECTIVE:

Challenging job which is related to my skill set and provides an opportunity to create innovative solutions to difficult problems. Responsibility to leverage existing knowledge and experience to implement advanced solutions, while learning and employing new technologies and perspectives.

CURRENT EMPLOYMENT:

Independent Software Contracting

SKILL SET:

The bulk of my education in developing software was self taught through an evolution of projects of growing complexity, starting at age 11. Projects varied from BASIC/VB to Perl/CGI to C/C++ to various assembly languages. I still strongly value the self starter mentality and maintain the perspective in a corporate work environment. I work hard and I am very determined, adaptable, and diverse. I have a strong background in Windows development, including intimate familiarity with the Win2000/XP kernel. I have reverse engineered protocols and systems including the Xbox kernel and APIs, AIM messaging protocol, and the undocumented NVIDIA "push buffer" format. I have worked in depth with DirectX and OpenGL technologies, including the interception and manipulation of their APIs.

Experienced with C, C++, Assembly (x86/6502/Z80), C#, Java, Perl, JavaScript, and many other random languages. I have written protocols, compilers, recompilers, disassemblers, detectors, instrumentors, compressors, decompressors, encoders, decoders, transcoders, muxes, demuxes, transformation filters, reconstructors and relocators, et cetera. I've worked with Windows, UNIX, Linux, BSD, and a few others. I have experience with Microsoft and GNU development environments.

SELECT PROFESSIONAL EXPERIENCE:

SweetLabs (2010+): Software Architect. Built custom layer on top of the chromium project which serves as the foundation for the Pokki project (web apps integrated with the desktop). Various Windows development, Node.JS related development and tweaking.

Chumby (2007+): Senior Software Engineer. Built an API for interacting with crypto processor, various Linux work including some ALSA sound and kernel driver debugging.

DivX (2003+): Senior Software Engineer (Lead). Most recently developing client/server real-time multimedia distribution protocols and system. Developed renderers, encoders, decoders, filters, and other video technologies on Windows and Consumer Electronics devices. Was awarded the Chairman's award.

VIA Technologies, Inc. (2003): Software consultant. WinXPe (embedded) user-level and system-level function interception and instrumentation. Developed non-intrusive techniques for allowing software to run on an embedded board without requiring installation or product key entry.

Microsoft Corporation (2001): Software Design Engineer. Developed components for next generation Microsoft Project product. Primarily C# design and implementation involving client-server communication and graphical representation of central server database.

Synchrony Communications (2001): Software Engineer. Developed Java and C++ product testing tools. Designed and implemented automated software for use in regression and stress testing. Designed and implemented an efficient real-time log monitoring and analyzation tool.

SELECT OPEN SOURCE / VOLUNTEER EXPERIENCE:

Sprites: Created a project for creating desktop characters which interact with one another and the desktop itself, and have the ability to wander across a network of users using a novel dynamic topology. Client is primarily C/C++ and the server is built using Node.JS. Part of this work involved overcoming performance barriers with Node.js for scalability.

Cxbx: Created the first and most capable Xbox emulator. Project sprung out of curiosity and spawned a great deal of discovery and documentation of Xbox software internals. The emulator is written in a blend of C and C++, and was designed and implemented from scratch using an original blend of HLE (high level emulation) and binary instrumentation. This project is open source under the GNU Public License and hosted by Source Forge.

OpenXDK: Created the framework for a free, open source software development kit for the Xbox. Developed an application capable of converting a PC executable (exe) into an Xbox executable (xbe). Documented the Xbox kernel API in order to facilitate interaction with the Xbox system.

Sirenic: Created a variety of real-time image processing algorithms for the sake of entertainment. Portable code capable of running on multiple operating systems as a screen-saver, WinAmp plug-in, WMP plug-in, et cetera. Optimizations done in hand-tuned assembly, including SIMD MMX/SSE.

AIMex: Developed C library capable of interfacing with the AIM messaging service. Required reverse engineering and implementing client components of the proprietary OSCAR protocol.

COLLEGE EDUCATION:

Attended **Case Western Reserve University** with a Major in **Computer Science** and a Minor in **Psychology**. Also worked as **Professor's Assistant** for a **graduate-level** object-oriented software engineering course, and as a **Tutor** for a **C++ programming** course.

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