

Randy Martinez

OBJECTIVE

To apply my broad skills, creativity, and passion for video games to video game development.

SKILLS

Languages: C++, C, x86 assembly, Python, Java, Shaders (GLSL), Perl, Lua

Apps: Wireshark, IDA Pro, Git, Subversion, Vim, Microsoft Visual Studio, Eclipse, Make, Cmap Tools

Operating Systems: Windows, Linux, Solaris

Database Systems: PostgreSQL, Microsoft SQL Server, Oracle

APIs: pcap, OpenGL, Windows API, Swing, OGRE 3D, Winsock

Protocols: TCP/IP, Border Gateway Protocol(BGP)

Code Samples: <http://www.parallelprocess.net/portfolio.html>

EXPERIENCE

Petroglyph Games, Las Vegas, NV

August 2011 - Current

Position: Gameplay Programmer

Bigfoot Networks, Austin, TX

June 2010 - August 2011

Position: Software Engineer - Linux Network Development

- Developing firmware C and Python code for a next generation gaming router.
- Gaining embedded systems programming experience maintaining the firmware of the current Killer 2100 Gaming Network Card.
- Using Wireshark to study game networking protocols.
- Gaining experience writing network based applications.
- Gaining Linux kernel, module, and applications development and system administration experience.

ICASA - Institute for Complex Additive Systems Analysis, Socorro, NM

February 2006 - February 2008

Position: Research Associate

ICASA's research is characterized by the study of dynamical systems, control theory, mathematical physics, and economics using the tools of theoretical analysis, modeling, and simulation. Tasks as a research associate included:

- Designing and writing software in Java, Perl, and C++.
- Wrote a three-dimensional spring embedded graph viewer using C++ and the open source graphics engine OGRE to render, in real time, graphs with at least 100,000 nodes.
- Designed and implemented a graph data structure and algorithms library in Java that significantly reduced development time for other projects.
- Analyzed the internet as a complex system by looking at how malware and natural disasters affects the Internet and predicting these events.
- Designed and implemented a database application using PostgreSQL to track Border Gateway Protocol(BGP) router snapshots and updates for tracking and predicting malware and natural disasters, both historically and in real-time.
- Implemented a multi-threaded visualization using Java and the Swing library to display, in 2D, the geographical locations of all Internet routers and their status.
- Wrote a simulation for the Internet and BGP.
- Helped design and implement an application, first using Perl, then Java, to process natural language in human written reports.

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- Developed interpersonal skills as a member of a multidisciplinary team of computer scientists, electrical engineers, mathematicians, and others .

The Hemi Group, Albuquerque, NM

May 2005 - August 2005

Position: Web Developer, Customer Service Representative

- Tracked down and tested bugs on website.
- Used Adobe Photoshop to edit images of products on new website.
- Wrote reporting tools in ASP.NET that queried a Microsoft SQL database.
- Used my interpersonal skills to help customers order products, track shipments, return products, and suggest products. Investigated fraud. Helped design a new website for both the customer side and the CSR side to smooth business operations.

EDUCATION

New Mexico Tech, Socorro, NM

Bachelor of Science, Computer Science, December 2009

GPA: 3.48 overall (on a 4.0 scale.) CS Major GPA: 3.59. Honor Roll

Advanced Coursework:

Info Protection and Security

- Reversed engineered programs, using IDA Pro, to look for security holes.
- Performed a penetration test.
- Analyzed network traffic with Wireshark.

Secure Software Construction

- Wrote buffer overflow exploit code.
- Studied and wrote a rootkit.

Computer Graphics

- Learned OpenGL.
- Learned and wrote various shaders (per-pixel lighting, bump, normal, and parallax mapping.)
- Wrote a game using OpenGL and C++.

Compiler Construction

- Implemented and designed a full optimizing compiler for C using C++.

Operating Systems

- Implemented a scheduler for Linux in C.
- Wrote system calls.

Intro to Database Systems

- Learned Oracle.
- Designed various databases to model entities and relationships.
- Wrote stored procedures.

INTERESTS

MMO games, Video Games, Computers, Dungeons & Dragons, Stargate, Star Trek, Magic the Gathering, Paintball, Creative Writing, Motorcycles

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REFERENCES

Chris Huybregts

chuybregts@gmail.com, Senior Software Engineer – Applications Team Lead, Bigfoot Networks.
Relationship: friend.

Danny Quist

dquist@offensivecomputing.net, Relationship: friend, he taught the Info Protection and Security class.

Darryl Ackley

dackley@icasa.nmt.edu, (575) 835-5926, Assistant Director, Institute for Complex Additive Systems Analysis. Relationship: direct manager.

Max Planck

mplanck@icasa.nmt.edu, (575) 835-5926, System Engineer, Institute for Complex Additive Systems Analysis. Relationship: fellow coworker/programmer.

Nico Marrero

nicomarrero@gmail.com, Instructor for Computer Graphics, Compiler Construction, New Mexico Tech. Relationship: I was his student for both Computer Graphics and Compiler Construction.

Dr. Song Fu

song@cs.nmt.edu, Professor for Operating Systems, New Mexico Tech. Relationship: I was his student for Operating Systems.