Frank Mitchell

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Work Experience

Software Engineer – 38 Studios, LLC – November 2010 - Present

- Wrote a Ruby gem to generate native packages (Windows, Debian, Red Hat) from a common DSL. Decreased server deployment time by 4x. Allowed for 100% environment reproducibility.
- Built a CI and deployment system for the *Reckoning* platform using Ruby, MCollective, and Puppet. Allowed three admins to manage 500 servers. Saved over 1,000 hours a year in QA testing.
- Created a Ruby framework to monitor, upgrade, back up, and maintain a Jenkins build server farm. Saved $160,000 a year by eliminating the need for two full time build engineers.
- Wrote a Python command line tool to process millions of XML files in parallel across a VM cluster. Saved 4,000 hours a year in Unreal client packaging and deployment time.
- Built a server side JavaScript framework for monitoring the status of JVM applications with JMX. Saved $200,000 a year by eliminating licensing costs for conventional agent based tools.

Software Engineer – Chief Architect, Inc. – June 2006 - January 2010

- Built a distributed multi-threaded 3D model collaboration system using C++, SQLite, and RSS. Reduced bandwidth costs for online software sales by $12,000 a year.
- Created an automated source to ISO build system using Ruby and Visual Build Pro. Saved 500 hours a year in product deployment time. QA turnaround time for build errors improved 200%.
- Created a team maintainable installation and build system in Visual Studio with Ruby and Votive. Saved $50,000 a year by eliminating the need for a full time build engineer.
- Designed a C++ algorithm to output 3D objects as CSG unions of triangles in POV-Ray. Saved 1,000 hours a year in render time for photorealistic marketing images.
- Designed an automated system for creating MSI installers and MSP patches for 12 different products using Ruby and Windows Installer XML. Installation related support calls decreased significantly.
- Designed a modified difference of Gaussians edge detection algorithm in C++. Used to provide a real time pencil sketch look for textures and images in a 3D scene.
- Ported a binary 3D object storage format to a SQLite database backend. Improved search times by 120x. Implemented a GUI in C++ to allow real time searching across gigabytes of 3D data.

Software Engineering Intern – Chief Architect, Inc. – June 2005 - August 2005

- Wrote CAD tools in C++ to produce 3D models of geometrically specified rooms and shapes.
- Designed a C++ algorithm to provide smooth segmentation of elliptical curves.

Education

BS Computer Science – University of Idaho – August 2002 - May 2006

- Final project in applying set theory to cryptography. Designed a multi-platform tool in Ruby for the decryption of a general substitution cipher. Speed improvements of 10x over previous tools.