

Education

- **University of Illinois at Urbana-Champaign, College of Engineering** Urbana, IL
Bachelor of Science in Computer Science Aug. 2004–May 2008
 - Overall GPA: 3.61, Technical GPA: 3.81
 - Dean's List (Fall 2004–Fall 2006)
 - James Scholar in Engineering (2004–2005)
 - Graduated with Honors

Work Experience

- **UIUC Hydrogeology Lab** Urbana, IL
Visiting Research Programmer February 2006–present
 - Worked on the Geochemists' Workbench, a geochemistry software suite written in C++ and Tcl/Tk.
 - Added or enhanced support for several different image output formats including PDF, SVG, and PostScript, including adding TrueType font embedding to PDF and PostScript files.
 - Helped add parallel processing support to several scientific calculations, using OpenMP.
 - Designed a new XML-based configuration file format for our applications.
 - Ported our calculation applications to Linux, to allow them to be run on large clusters.
 - Implemented a testing framework for our calculation applications in Perl, using Test::More.
- **Smile-A-While Amusements** Traveling, Illinois/Indiana/Missouri
Concessions manager Summer 2004 and 2005
 - Managed several amusement games on the Luehrs' Ideal Rides carnival.

Projects

- **Moose (<http://moose.perl.org/>)** 2009–Present
 - Member of the Moose Cabal, the lead development team for Moose.
 - Wrote several extensions for Moose, including MooseX::NonMoose, which allows classes built with Moose to easily interoperate with other types of classes, and MooseX::Aliases, which allows Moose attributes to be referred to by different names.
- **Bot::Games (<http://github.com/doy/bot-games>)** 2009–Present
 - Bot::Games is an IRC bot framework written in Perl, designed for multiplayer game moderation.
 - Uses Moose extensively to provide a clean and extensible plugin system for adding games.
- **TAEB (<http://taeb.sartak.org/>)** 2008–Present
 - TAEB is a Perl framework (using Moose) for programmatic interaction with NetHack (<http://nethack.org/>).
 - Primary developer for the leading AI written for TAEB.
 - Developed several standalone Perl modules in the course of development, including Graph::Implicit, which implements several useful graph algorithms, and IO::Pty::Easy, which provides a simple read/write interface for interacting with pseudo-terminals.
- **Smithy (<http://sourceforge.net/projects/smithy/>)** 2008
 - Smithy is a cross-platform map editor for the Aleph One engine (<http://marathon.sourceforge.net/>), written in OCaml.
 - Contributed several GUI improvements, including writing custom widgets using LablGTK.
- **System for Defining, Documenting and Recording Game Events (<http://volition-inc.com/>)** 2007–2008
 - This is a library written in C which can be added to games in order to track arbitrary events and report them to a remote server, for use in gameplay testing.
- **LuaIRC (<http://luaforge.net/projects/luairc/>)** 2006–2008
 - LuaIRC is a fully-featured IRC framework written in Lua.
 - Supports all standard IRC functionality, including CTCP and DCC.

Skills

Languages: Proficient in C, C++, Perl (CPAN id: DOY), Lua, Bash, OCaml

Working knowledge of Ruby, Tcl/Tk, JavaScript, LaTeX, HTML/CSS, PostScript, sed

Operating Systems: Linux (Arch, Debian, Gentoo), Windows (2000, XP)

Tools: Make, Vim, Microsoft Visual Studio, Cygwin, Darcs, Subversion, Git

Activities

Inline Insomniacs: I was the webmaster for the Inline Insomniacs rollerblading club from 2005 until 2007.

Falling Illini: I was a member of the Falling Illini skydiving club from 2007 until 2008.