# Daniel J. Popowich
# Python Software Engineer

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**Over Twelve Years Python Experience:** I was first introduced to python in the summer of 1999. I was reviewing the slides of a talk given by the CEO of an Internet start-up. . . he was discussing the reasons for the success of his company. One of the slides in his presentation credited python; the slide read: *Python is to Java as Java is to C++.* Intrigued, I downloaded the language, built it and read the tutorial. This took me one day and I have never looked back.

**General use of Python:** In the twelve-plus years since, I have used python for over ninety percent of my programming and scripting needs. The rare exceptions are when performance is critical (I then use C/C++) or when the environment demands another language (e.g., bash for system scripts. . . LISP when customizing emacs. . . etc.). I use python for system administration scripting, end-user GUI applications, server-side web applications, database access and even as my desktop calculator. I am very much in tune with the python open source community and have contributed to projects; in the past year I published *WSGIServlets*, a web application framework (see below). I am an advocate of the language, often teaching workshops and leading discussion sessions with my colleagues.

**Specific Python Projects** (a sampling):

- ⋆ I have authored a number of open-source tools for python programmers.
  See: http://www.astro.umass.edu/~dpopowich/python/ for a list of current offerings. Most recently I published WSGIServlets, an object-oriented, lightweight web application framework for WSGI. Project home page: http://code.google.com/p/wsgiservlets/.

- ⋆ Currently writing a CMS website for the UMass Department of Astronomy using Django with a PostgreSQL backend. This is still in beta, i.e., the current website is *not* this project!

- ⋆ As a system administrator for a large LAN I needed to prevent hijacking of our wireless network by unauthorized users. I wrote a suite of programs in python to force users to authenticate before they could gain access to the network. This system used a secure web application communicating to a daemon written in python which dynamically configured iptables.

- ⋆ A Point-of-Sale application complete with inventory control for a retail bookstore using PyGTK as the GUI toolkit and PostgreSQL as the database back-end.

- ⋆ A framework for remotely controlling (with xmlrpc) a digital kiosk (a Linux appliance).

- ⋆ A python-based extensible framework for developing web-based content management systems (built with mpservlets). Using this framework, I built a web application for a large database-driven site.

- ⋆ Middleware to store data objects in a relational database (PostgreSQL). This project pre-dates SQLAlchemy.

- ⋆ C extensions to embed a realtime video processing library in the python interpreter.

- ⋆ Prototypes in python for a large scale full-text search and filtering system.

**Related Skills:** I am an expert in the Linux operating system with over twenty years experience as a system administrator and system programmer for Linux and other UNIX operating systems. I am also well-versed in network technologies and have configured LANs and their switches and routers, including network gateways and firewalls using Linux and iptables. A Linux/network administrator-centric resume can be provided on request.

**Work History:**

**8/05–present:** Sr Systems and Network Analyst, Department of Astronomy, University of Massachusetts–Amherst, Amherst, MA. I support a network of approximately one hundred Linux desktops and servers and sixty users. Duties run the gamut from desktop installations to engineering network infrastructure. All scripts and programs I write to facilitate this job are written in python.

**7/04–8/05:** Programmer/Systems Administrator, Blue Fox, Inc., Shelburne Falls, MA. Blue Fox is a small hosting and contract programming company. I was a staff programmer as well as Linux system administrator for the company's hosting server.

**11/02–6/04:** Network and Systems Administrator, Mohawk Trail Regional School District, Shelburne Falls, MA. The school district is made up of six elementary schools, a combined high-school/middle-school and the district's administrative offices, creating a geographically large WAN (the two furthest schools being over twenty miles apart).

**6/01–11/02:** Software Consultant/Instructor, self-employed. During this time of self-employment I worked on many disparate tasks, all capitalizing on my UNIX system administration and python programming skills.

**5/99–5/01:** Senior Software Architect, Chiliad Publishing, Inc., Amherst, MA. At Chiliad I was part of a core team responsible for the design and implementation of a large scale, distributed search and document filtering system. While not limited to any particular application, the search/filtering system was initially designed to manage collections of Internet Web scale.

**7/98–5/99:** Advisory Software Engineer, IBM, Poughkeepsie, NY. In my short tenure at IBM I worked with the High Availability (HA) team designing, coding and maintaining system software in support of clustering RS/6000 computers running AIX, IBM's UNIX operating system. HA software, upon detecting events such as network adapter failures, network failures or node failures, can restart necessary software on redundant subsystems or nodes.

**9/94–7/98:** Senior Software Engineer, Sovereign Hill Software, Inc., Hadley, MA and Software Engineer, Applied Computing Systems Institute of Massachusetts, Inc. (ACSIOM), Amherst, MA. Sovereign Hill Software was a for-profit spin-off of the non-profit company, ACSIOM. While at ACSIOM, I was a member of a development team responsible for transferring technology from the National Center for Intelligent Information Retrieval to government agencies and industry. The team's primary responsibilities were developing InQuery, a full-text information retrieval system, and InRoute, a document filtering system. After joining Sovereign Hill my primary responsibility was the development of InFilter, Sovereign Hill's version of InRoute.

**9/93–9/94:** Senior Applications Programmer and Analyst, HBO & Company, Amherst, MA. I was a member of a team developing client/server decision support software for the health care industry. I worked with a data services group, providing an interface to a Sybase relational database for object-oriented (smalltalk) clients.

**11/89–7/93:** Systems Programmer, Social Science Computing Cooperative (SSC), University of Wisconsin–Madison, Madison, WI. I was the primary systems programmer responsible for the SSC's growing UNIX network of ULTRIX, SunOS and OSF/1 computers.

**1/88–11/89:** Computer Specialist, William S. Middleton Memorial Veterans Hospital, Madison, Wisconsin. I was responsible for programming (in MUMPS) in support of the development, implementation and operation of the Decentralized Hospital Computer Program (DHCP), which is developed nationally by the Department of Veterans Affairs, as well as other information systems and subsystems developed for administration, education, research and other clinical purposes.

**Other Languages/Software Tools:** Java, C++, C, HTML5, CSS, Javascript, CGI, lex, yacc, bash, UNIX shell programming.

**Operating Systems:** Linux/UNIX

**Education:** B.A., 1984, State University of New York, College at Potsdam, cum laude. Major: Theatre, Minor: Computer and Information Sciences, GPA: 3.25.

**References:** References can be provided on request.