

David Charles Haley

(Current as of October 21st 2010)

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PROFESSIONAL EXPERIENCE

Software Developer, D. E. Shaw & Co., NY Jul. 2008 – Oct. 2010

Front-office developer for the Credit Opportunities group for top global hedge fund.

- Enhanced portfolio manager's risk analysis and position performance review by developing quantitative framework to benchmark versus firm-wide and group-specific risk metrics.
- Significant contributor to firm-wide software infrastructure (esp. in Python). Often solicited for opinion/peer review to improve shared code quality. Projects include: database object-relational mapping; automatic conversion/upload from data structures to SQL tables; Python/Perl integration; fundamental data structures; general architecture and design decisions.
- Implemented framework for data analysis, combining disparate data sources into a unified stream. Enabled more accurate and user-friendly “big picture” analysis and aggregation of data.
- Improved and accelerated non-technical staff access to quantitative data by developing add-ins for Excel to download from a database, for data manipulation and reporting.
- Provided quantitative and data support to traders and analysts.

Software Engineer (intern), SAP Labs, CA Mar. 2008 – Jun. 2008

Conducted research project to explore visualization of document proximity to improve search results.

Developed Ruby and Java code to produce self-organizing maps, an unsupervised machine learning technique outputting two-dimensional “maps” displaying document proximity.

Software Engineer (intern), Second Floor Systems, CA Jun. 2007 – Sept. 2007

Added e-commerce API access to Lisp web server for manufacturer-retailer data integration software startup.

Software Developer (intern), D. E. Shaw & Co., NY Jun. 2006 – Sept. 2006

Enhanced key financial risk analysis platform by embedding Perl as an extension language, in addition to maintaining compatibility with existing Tcl interpreter. Gathered requirements from existing Tcl usage to identify common use cases and provide appropriate idiomatic Perl interface.

Research Engineer (part-time), CSLI, Stanford University, CA Mar. 2004 – Jun. 2006

Dramatically improved interaction capabilities for automated tutor. Extended C++ GUI for display and manipulation of a 3D schematic of a US Navy destroyer. Implemented tutor reasoning in Java integrated with ship GUI. Wrote Perl, Java data and transcript processing. Authored software demo video using screen capture, live filming. Traveled to US Naval Academy at Annapolis to deliver, install and set up a software experiment for Navy cadets. Co-author of journal-published paper. All for automated voice-controlled ship damage control tutor project at the *Center for the Study of Language and Information*, for the US Navy.

Research Assistant, Open University, UK Aug. 2003

Extended *PortMidi* to bridge SmallTalk and C code for the Open University Mobile and Ubiquitous Interaction Research Group. Wrote C driver for SmallTalk to access serial port devices (e.g., a Garmin GPS device).

Programmer, American University of Paris, France Jan. 2003 – Jun. 2003

Enhanced tools used by AUP Computer Center, e. g.: *WebEvent* (web-based calendar/event manager), *BlackBoard* (classroom collaboration tool), in-house faculty database system.

EDUCATION AND ACADEMIC EXPERIENCE

Master of Science in Computer Science, Stanford University, CA 2006 – 2008

Member of Stanford Logic Group. Published at and attended SARA '07 workshop in Whistler, Canada.

Hosted the third annual General Game Playing competition at the AAAI '07 conference in Vancouver, Canada.

Bachelor of Science in Computer Science (with Honors), Stanford University, CA 2003 – 2008

Honors thesis in Automated Logical Reasoning. Adviser: Prof. Michael Genesereth.

Bachelor of Arts in Philosophy, Stanford University, CA 2003 – 2008

Teaching Assistant, Dept. of Computer Science, Stanford University, CA

Sept. 2006 – Jan. 2007

TA for several undergraduate classes. Tasks included: writing and grading assignments and exams, holding office hours, weekly discussion/tutoring sections, and giving guest and substitute lectures.

- CS 227B: *General Game Playing* (Spring 2007). 11-person project-based class. Developed software framework for a general game player released to the public.
- CS 103A: *Discrete Mathematics for Computer Science* (Winter 2007). Class of ~80.
- CS 157: *Computational Logic* (Fall 2006, Fall 2007). Classes of 50–70 students.
- CS 106: *Introductory Programming* (Winter 2004). Section leader. Responsible for ~15 student section.

Head Peer Academic Coordinator, Stanford University, CA

Aug. 2005 – Jun. 2007

Gave academic guidance for ~80-student dorm complex. Contributed to larger HPAC community by building a knowledge base for common questions. Also responsible for community event planning and one-on-one mentoring for two groups of eight incoming freshmen.

American University of Paris, France

2002 – 2003

Ecole Active Bilingue (Section Etoile), Paris, France

1999 – 2002

High school valedictorian. French Baccaulaureate (scientific section).

SKILLS

Programming and Development

- I have been programming since age eight. Main language experience:
 - Expert: C++, C, Python, Java, Perl, Lua.
 - Advanced: SQL, PHP, VB, Vbscript.
 - Basic: Ruby, Lisp, Prolog.
- Experienced with various forms of web development. Skilled with raw HTML and CSS, and web authoring tools. Developed web applications using CGI (in Perl, Python, Lua). Familiar with various networking/Internet protocols, e.g.: HTTP, email, TCP/IP, UDP, routing, DNS, etc.
- Experienced with database servers (Microsoft SQL Server, MySQL, Oracle) and applications.
- Basic knowledge of OpenGL 3D graphics libraries.
- Experienced developing on Windows and Unix/Linux platforms. Tools: gcc suite, vim, Visual Studio, Eclipse, CVS, svn, bzip, git, sqlalchemy, etc.

General Computer Skills

- Have used computers since before pre-school. Experienced with: Unix/Linux, MS Windows, Mac OS X
- Experienced with productivity software: L^AT_EX, Microsoft Office, Open Office, Adobe, Tableau, etc.

Languages

- Bilingual English and French. Working knowledge of Spanish; six years of Latin.
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INTERESTS AND OTHER

Born US citizen, acquired additional French citizenship in 2002.

Programming

- Head developer since Dec. 2001 for *Legends of the Darkstone*, an online, text-based 'multi-user dungeon' game. Wrote web applications, e.g., a forum tied to the game's accounts. Active in the general MUD development community. Top contributor to the 'SmaugFUSS' framework.
- Head programmer for game editing club (Apr. 1997 – July 2001). Developed game scripts to change play experience. Programmer for web-based pages and scripts, such as a fictional bank account system.

Debate

- Member of five-person team obtaining 1st place in the French National British Parliamentary-style debate championship during academic year 2002–03.
- Awarded "Exceptional Performance" certificate for Harvard Model Congress Europe 2001. President of high school debate club.

Athletics

- Student of Seido Karate since Sept. 2008. Assistant instructor for white belt classes.
- Scuba diving: PADI 'Advanced Open Water' certificate (+ Nitrox, Wreck Diving specializations). ~50 dives.