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# Jonathan Yavner

Canadian status: <i>Naturalized citizen</i>
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## Professional experience

### **First Clinical Research, San Francisco CA**

(*Languages: PHP, C, JavaScript, SQL, Lex, Shell, Yacc; Operating systems: Linux, FreeBSD*)

#### Technical Lead, software development (2008-2014)

- Develop and maintain conference management system for [www.MagiWorld.org](http://www.MagiWorld.org)
  - Customized conference books generated on-the-fly for each attendee, utilizing headless OpenOffice, sockets, and PDF transforms.
  - API for the mobile app used by attendees.
  - Credit-card processing.
  - Email-announcement control and delivery monitoring.
  - Management software for offers from volunteer speakers.
  - Management software for selection of session-chairs based on volunteers' interests and limitations.
  - Collation of feedback from attendees about session speakers and printing of suitable certificates of appreciation for the speakers.
- Recruit other software developers and direct their work.

#### System Administrator (2006-2014)

- Maintain multiple web servers, ensuring consistency and availability of content. Support apache, bugzilla, cvs, ftp, mysql, qmail, spamassassin, and ssh.
- Design/develop/maintain content management system for [www.FirstClinical.com](http://www.FirstClinical.com).
  - Convert government healthcare regulations from formatted plaintext to XML and develop a custom search-accelerator for them based on quadrograms in the text.
  - Convert government email archives regarding healthcare regulations, develop a search-engine.
  - Meta search-engine for clinical-trial registries.
  - Support archiving and searching for the *Journal of Clinical Research Best Practices*.

### **Franklin Electronic Publishers, Burlington NJ**

(*Languages: C, C++, Lex, Yacc, AWK, shell, Lisp; Operating systems: SunOS, Linux; Assembly: 6502, SNK24, ARM-9E*)

#### Principal Engineer (2001-2006)

- Design and develop a "Test-taking Engine" for the company's handheld electronic book applications. The application supports HTML, CSS, and JavaScript in 500 KB of RAM. *Research:* incremental rendering techniques.
- Extend eBookMan® embedded OS to support dynamic-link libraries.
- Design/develop/maintain a graphical user interface library for the eBookMan.

- Design/develop new audio device driver to minimize "skipping".

#### Senior Software Engineer, applications (1995-2000)

- Design/develop customized handheld electronic books based on application templates. Extend templates for new kinds of books. Unicode support.
- *Research*: methods for detecting typographical errors through syntactic analysis of handbooks, dictionaries, and encyclopedias written in Arabic, French, German, Italian, Spanish, and English.
- *Research*: compression of running text by separation into a stream of "root words" and a stream of "inflectional-form" tokens; compression of inflectional information for quick retrieval.

#### Software Engineer, data (1989-1995)

- Construct automated systems for detecting/correcting errors and reformatting for handheld presentation: handbooks and dictionaries written in Bulgarian, Hebrew, Arabic, Japanese, English, etc.
- *Research*: methods for evaluating books (frequency of typographical and syntactic errors, estimated ROM size, usefulness in handheld form).
- Administer a network of 15 SunOS workstations.

### Brandeis University, Waltham MA

*(Languages: C, Lisp, Scheme, PROLOG, LOGO, shell; Operating systems: HP-UX, SunOS; Assembly: VAX)*

#### Research Assistant (1987-1989)

- Detect/correct errors in a database of political-history events and redesign it for case-based reasoning.
- *Research*: Case-based reasoning, connectionist logic on multiprocessor computers, translation of Common Lisp to Scheme.
- Teaching assistant: Scheme, LOGO, Case-based reasoning.

### Control Consultants, Amherst MA

*(Languages: Pascal; Operating systems: Windows, VersaDOS; Assembly: i386, 68000)*

#### Application Developer (1986-1988)

- Design/develop factory automation systems for liquid chromatography and tantalum refining.

### Money Management Systems, Waltham MA

*(Languages: BASIC, Pascal; Operating systems: RSTS-11, VMS; Assembly: PDP-11, VAX)*

#### Systems Programmer (1983-1986)

- Redesign 300,000-line financial database system for execution speed and ease of maintenance.
- Write automated converter for database source code.
- Develop/present lectures to other programmers on how to maintain the new system.

#### Apprentice Programmer (1980-1982)

- Write financial report generators.

## **Education**

### **Brandeis University, Waltham MA**

MA, Computer Science (1989)

- Thesis: "Diachronic Analysis of Political History using Case-Based Reasoning".

### **University of Massachusetts, Amherst MA**

BA, Linguistics & Russian (1986)

- Thesis: "Mechanical Conjugation and Declension of Russian".

BS, Computer & Information Science (1986)

- Projects: connectionist network simulator, parser for English based on Shank's scripts/plans/goals system, etc.

## **Publications**

- "Back-propagation of knowledge from syntax tree to C source code", *ACM SIGPLAN Notices*, March 2004.
- "Franklin SGML" (a textbook on how to convert printed books to e-books), and "eBookMan® GUI Programmer's Guide", *Franklin Software Developer's Kit*, 2001. (Free download, restrictive license.)
- "Diachronic Analysis of Political-Event Cases" (with Drs. Richard Alterman and Frank Sherman), *Proceedings of the DARPA Case-Based Reasoning Workshop*, Hammond, K.J. (Ed.), Morgan Kaufmann, 1989.
- "A Better Referencer", *Pascal News*, April 1983.
- "An Extension that Solves Four Problems", *Pascal News*, Sept. 1981.

## **Free Software**

- 2007: "Debian Etch Linux on a ThinkPad T23", <http://yavner.ca/T23>
- 2005: "TxlProp - Detect Emergent Properties in TXL Programs", <http://freewebs.com/jyavner/TxlProp>
- 2003: "Myer: Semantic Highlighter for C source", <http://savannah.nongnu.org/projects/myer>
- 2002: "Simple Emacs Spreadsheet with Viral Immunity", [GNU Emacs v22](http://www.gnu.org/software/emacs/emacs.html)

## **Awards received**

- 2003: "Best new free software, November 2003" (for Myer), <http://sweetcode.org> (now defunct).
- 2001: Anonymous accolades (3rd-party developers discussing among themselves how well-designed the eBookMan GUI library is):  
<http://groups.yahoo.com/group/eBookMan-SDK-Discussion>
- 1989: "Paper most helpful in attracting future government funding to our department" (co-winner), Brandeis computer science.
- 1986: University Honors (= cum laude), UMass.
- 1982: Commonwealth Scholar (SAT-based award of 4 years' free tuition).

