

John W. Shipman
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Experience

New Mexico Tech Computer Science Dept., Sept. 1987–present; Adjunct Professor.

- Taught operating systems; software engineering; Zero-defect programming; and practica in Python, including Tkinter and NumPy; L^AT_EX; Unix; T_EX; C; and FORTRAN.
- Co-author of *Lightweight Literate Programming: A Documentation Practice*. In *Technical Communication* 55:1, Feb. 2008, pp. 23–37(15).

National Radio Astronomy Observatory, Socorro, NM, Oct. 2013–Nov. 2015; Web Developer.

- Created the `packtrack` workflow web site for Very Long Baseline Interferometry (VLBI) projects.
- Replaced an obsolete, proprietary XML to PDF translator for the Proposal Submission Tool, mimicking its existing style with open-source tools.
- Wrote user-level documentation for the Operations Management System (OMS) for the Very Long Baseline Array (VLBA).
- Converted the L^AT_EX documentation for the `sched` observation scheduler from an unmaintainable toolbase to a currently supported system.
- Added reports to the Business Office System.

New Mexico Tech Computer Center, Socorro, NM, Sept. 1994–Oct. 2013; Applications Specialist.

- Wrote copious user-level documentation using DocBook-XML, all available as both PDF and HTML.
- Created a Web-based content management system in 1996 used by the university's main Web for ten more years.
- Organized a unified repository for internal documentation.
- Analyzed, designed, and implemented inhouse workflow applications.
- Researched and promoted open-source, standards-based software tools and techniques such as literate programming, Zero-defect (Cleanroom) methodology, XML, and Python.
- Trained users and staff on a wide variety of software tools.

Pen Pal Associates, Los Altos, CA, Jan. 1991–June 1993.

- Built an integrated development environment for pen-based applications.

Aug. 1982–Dec. 1990 and Sept. 1993–present: self-employed, dba **Zoological Data Processing**.

- Transformed 100 years of published Christmas Bird Count data into a database for National Audubon Society, Cornell Lab of Ornithology, and U. S. Dept. of Fish & Wildlife. Personally entered 3 million records and converted 1 million more from other sources.

- Wrote applications in population biology and scientific collection records for New Mexico Dept. of Game & Fish, Santa Fe, NM.
- Built a bird banding data entry system for Institute for Bird Populations, Pt. Reyes Station, CA. Entered a few tens of millions of banding records so far.
- Typeset three books using T_EX with custom C front ends: *Population Harvesting*, Getz & Haight, and *Carcharhinoid Sharks*, Compagno, Princeton University Press; *Distributional Checklist of North American Birds*, DeSante, Artemisia Press.
- Constructed several packages in C, including a system for spherical astronomy calculations.

Pyramid Technology, Mt. View, CA, June 1981–Dec. 1981.

- Designed instruction set, ported C compiler.

Tandem Computers, Cupertino, CA, May 1975–May 1981.

- Created a debugger for applications written in multiple compiled and interpreted languages.
- Automated software release and distribution.
- Built the runtime library for ANSI COBOL 74.
- Implemented a general-purpose sort-merge utility.
- Wrote the text editor and loader shipped with the first system.
- Provided the emulator used in bootstrapping the operating system and compiler.

Hewlett-Packard, Computer Division, Cupertino, CA, May 1971–May 1975; Member of Technical Staff.

- Worked with HP Labs to transfer an advanced APL language implementation to development.
- BASIC compiler for HP3000.
- BASIC interpreter shipped with first HP3000.

New Mexico Tech Computer Center, Socorro, NM, June 1966–May 1971.

- Designed an APL language implementation; managed development team.
- Implemented L⁶, a Bell Labs linked list language; published report CSR 102, “An L⁶ Interpreter.”
- Automated payroll and registration, the first two automated applications in the college administration.
- Systems programming, user consulting, service programming.
- First computer and keypunch operator; trained replacements.

Education

- 18 hours graduate-level coursework in Computer Science, New Mexico Tech.
- B.S., Computer Science, New Mexico Tech, 1970. Financed education with on-campus Honors Co-Op job. Charter member and twice president of ACM student chapter.

Other interests

- Choral singing, birdwatching, astronomy (former AAVSO member).