

Lloyd G. Williams, Ph.D.

PerfX
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Consultant in Software Performance Engineering

*Software Performance Engineering • Software Architecture and Design • Architecture Assessment
Performance Modeling • System Scalability • Web Applications • Embedded Systems*

PROFILE

Dynamic consultant with over 20 years experience in the development and application of software performance engineering principles and techniques. Internationally recognized leader in the theory and practice of software performance engineering with a proven record of assisting clients in solving and preventing software performance problems.

- Developer of the PASASM method for performance assessment of software architectures.
- Developer of a quantitative method for understanding and predicting the scalability of Web and other distributed applications.
- Pioneer in the application of software performance engineering to Web applications and embedded systems.
- Co-author of *Performance Solutions: A Practical Guide to Creating Responsive, Scalable Software* (Addison-Wesley, 2001) (with Dr. Connie U. Smith).
- Popular teacher and speaker; author of over 100 publications.

CONSULTING EXPERIENCE

PerfX (formerly Software Engineering Research) – Boulder, CO

1987 – Present

Owner/Principal Consultant

Specializing in the development and evaluation of software architectures to meet performance and scalability requirements as well as other quality of service objectives such as: performance, scalability, reliability, modifiability, and reusability.

Selected Projects

- Assisted clients at Fortune 500 financial service companies in identifying and eliminating software architecture problems that prevented achievement of performance requirements.
- Achieved a ten-fold increase in system capacity while saving over \$10,000,000 in additional hardware costs by reducing software resource requirements.
- Avoided contractual penalties by finding a quick-fix for software performance problems that prevented achieving service-level agreements (SLAs).
- Developed and presented numerous seminars on software performance engineering, object-oriented development, real-time systems design, software project management, and technology transfer.
- Assisted a client in defining and developing a tool for computing quality metrics for Smalltalk software.
- Consulted on software engineering methods and tools for the construction and evaluation of safety-critical systems.
- Developed an approach for integrating formal methods with object-oriented development.
- Developed an architecture for a process control system for handling hazardous materials.

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US Clients

American Stock Exchange, AT&T, DSC Communications, DOD-STARS Program, Eastman Kodak, Fidelity Investments, IBM, Johnson and Johnson, KLA, L-3 Communications, Lawrence Livermore National Laboratory, MasterCard, MCI, Motorola, Northern Telecom, Perkin-Elmer, Pitney-Bowes, Rockwell International, Software Productivity Consortium, Sprint, Unisys, US Nuclear Regulatory Commission, Visa International, and others.

International Clients

ASCII Corporation (Japan), Halifax Building Society (UK), Objectime, Ltd. (Canada), Omron (Japan), PFU (Japan), Software Research Associates (Japan), Systech (Italy), Melco (Japan), and others.

ACADEMIC EXPERIENCE

University of Colorado at Denver – Denver, CO **1985 – 1987**

Associate Professor, Department of Electrical Engineering and Computer Science

Taught undergraduate and graduate courses in software engineering. Lead research in software development methodology and software environments.

University of Colorado at Boulder – Boulder, CO **1984 – 1985**

Visiting Associate Professor, Department of Computer Science

Led research in software environments during sabbatical leave. Principal investigator on the Keystone project to create a distributed software development environment.

Hampshire College – Amherst, MA **1978 – 1985**

Associate Professor (1983 – 1985)

Assistant Professor (1978 – 1983)

Chair, Computer Studies Program (1982 – 1984)

Developed and taught courses in computer science, software engineering, and microcomputers. Supervised student research on data abstraction, interpreter design, expert systems, and microcomputer construction. Served as the first Chair of Hampshire's multidisciplinary Computer Studies Program. Instrumental in the inauguration of the program.

OTHER APPOINTMENTS

Rocky Mountain Institute of Software Engineering – Boulder, Colorado **1985 – 1988**

Director (1986 – 1988)

Coordinator for Technical Activities (1985 – 1986)

Key member of non-profit organization founded to promote research and education in software engineering. Specialized in the transfer of leading-edge software development technologies into widespread practice. Provided technical and administrative direction for research projects, professional development programs, workshops, and study groups.

EDUCATION

University of Wisconsin – Madison, WI

Ph.D., Physical Chemistry

Colgate University – Hamilton, NY

A. B. Chemistry