



## ERIC SCHOEN

### EXPERIENCE

May 2015 – Present  
Chief Technical Officer, i2k Connect Inc

Overall responsibility for delivering the i2k Connect Platform, ensuring the architecture, AI science and processing algorithms are robust enough to operate at scale in cloud-based, on-premise and hybrid installations.

June 2010 – May 2015  
Chief Software Architect, Schlumberger Ltd

Responsible for overall software architecture strategy, cross-segment architecture, and architect development at Schlumberger. Authored the standards of practice manual for Schlumberger software. Key contributor to Schlumberger software quality management system, Production Group real time surveillance center architecture, and the recently announced DrillPlan solution.

August 2007 – June 2010  
Chief Software Architect, Schlumberger Information Solutions

Responsible for Schlumberger's commercial software architecture, as expressed through its architectural blueprint. Co-authored the Schlumberger Architecture development process and instilled software architecture validation/evaluation practices within the organization. Drove efforts to modernize Petrel's implementation

infrastructure, and worked with SIS's portfolio managers to establish the long term roadmap for Petrel's information architecture.

December, 2004 – August, 2007

Architect, Schlumberger Information Solutions

Responsible for the architecture of Ocean's "data-centric" product family, which included an application shell, a data access pipeline, and an Object-Relational Mapping engine. Also responsible for a database storage layer in Petrel, which has evolved over time to become Schlumberger's "Studio" project.

March, 1999 – December, 2004

Technical Advisor, Schlumberger Austin Product Center

Member of the team that developed early concepts, prototypes, and implementations of the SIS Ocean framework for geoscience software.

April, 1997 – March, 1999

Software Engineer, Schlumberger Austin Product Center

Member of the team that developed the 3D Common Model Builder, a shared earth modeling framework.

July, 1982 – April, 1997

Research Scientist, Schlumberger Ltd

Knowledge-based systems development, software engineering research, high-performance computing, geophysical data processing, elastodynamics simulation.

## **EDUCATION**

Ph.D., Computer Science (Artificial Intelligence), Stanford University

September, 1990

Thesis: Intelligent Assistance for the Design of Knowledge-Based Systems

M.S., Electrical Engineering, Stanford University (Focus: Computer Network Systems)

June, 1982

B.S., Electrical Engineering, Stanford University

June, 1981

## **SKILLS**

Software architecture and architecting

Software design and engineering

High performance computing

Cloud computing

IT strategy

Programming languages:

Fluent in C, C++, C#, Clojure, Java, Javascript, SQL

Capable in Python, PHP

## **PROFESSIONAL ACHIEVEMENTS**

Best paper award, Schlumberger Software Conference '91, for "Reasoning about software grafts."

Best paper award, Second International Workshop on Software Reusability, Lucca, Italy, March, 1993, for "Design as evolution and reuse."

## **GRANTED PATENT AND PATENT APPLICATIONS**

Object-oriented Framework for Menu Definition, U.S. Patent 5,119,475. June 02, 1992.

Method for Inputting Seismic Data for Seismic Processing on a Multiprocessor Computer, U.S. Patent 5,530,646. June 25, 1996.

Method for Load Balancing Seismic Migration Processing on a Multiprocessor Computer, U.S. Patent 5,537,319. July 16, 1996.

Method, Apparatus and System for Constructing and Maintaining Scenegraps for Interactive Feature-Based Geoscience Geometric Modeling, U.S. Patent 6,980,935. December 27, 2005.

Method and Apparatus for Oilfield Data Repository. U.S. Patent 7,895,241. February 22, 2011.

Oilfield Operational System and Method. U.S. Patent 8,145,464. March 27, 2012.

Method and Apparatus for Oilfield Data Repository, U.S. Patent 8,326,888. December 04, 2012.

Visualization Controls, U.S. Patent 8,400,398. March 19, 2013.

Oilfield Application Framework, U.S. Patent 8,499,829. August 06, 2013.

Oilfield Application Framework, U.S. Patent 9,708,897. July 18, 1917.

Multi-Level Well Design Validator. U.S. Patent 10,592,620. March 17, 2020.

People in Context. U.S. Patent Application US20130325725A1. Published December 05, 2013.

Well Plan System, U.S. Patent Application WO2016168617A1. Published October 20, 2016.

Method and System for Unsupervised Learning of Document Classifiers. US20170293842A1, published October 12, 2017.

## **PUBLICATIONS**

E. Schoen and R. Smith. Impulse: A display-oriented editor for Strobe. Proceedings of the National Conference on Artificial Intelligence, August 22-26, 1983, Washington, D. C.: AAAI-83. pp. 356-358

R. Smith, G. Lafue, E. Schoen, and S. Vestal. Declarative task description as a user interface structuring mechanism. *IEEE Computer*. Vol. 17, no. 9, September 1984. pp. 29-38

E. Schoen, R. Smith, and B. Buchanan. Design of knowledge-based systems with a knowledge-based assistant. *IEEE Transactions on Software Engineering*. Vol. 14, no. 12, December 1988. pp. 1771-1791

E. Schoen, R. Smith, and B. Buchanan. The knowledge base designer's assistant: a preliminary report. *Concepts and Characteristics of Knowledge-based Systems: Selected and Reviewed Papers from the IFIP TC 10/WG 10.1 Workshop*, Mount Fuji, Japan, 9-12 November, 1987. M. Tokoro, Y. Anzai, A. Yonezawa, editors. Amsterdam; New York: North-Holland, 1989. pp. 105-136

G. Arango, J. Hoskins, and E. Schoen Product modeling for software re-engineering. Presented at: *Domain Modeling Workshop, International Conference on Software Engineering*, Austin, Tex., May 1991

G. Arango and E. Schoen. Using product models to compose rationales. Presented at: *AAAI '92 Workshop on Design Rationale Capture and Reuse*, San Jose, Calif., July 1992

G. Arango, E. Schoen, and R. Pettengill. Design as evolution and reuse. Proceedings, *Advances in Software Reuse : Selected Papers from the Second International Workshop on Software Reusability* : March 24-26, 1993, Lucca, Italy. pp. 9-18

G. Arango, E. Schoen, R. Pettengill, and J. Hoskins. The graft-host method for design change. *Proceedings, 15th International Conference on Software Engineering*, May 17-21, 1993, Baltimore, Maryland. pp. 243-254

G. Arango, E. Schoen, and R. Pettengill. A process for consolidating and reusing design knowledge. *Proceedings, 15th International Conference on Software Engineering*, May 17-21, 1993, Baltimore, Maryland. pp. 231-242

E. Schoen. Active assistance for domain modeling Presented at: *Domain Modeling Workshop, 13th International Conference on Software Engineering*, Austin, Tex., May 1991.

E. Schoen, R. Smith, J. Boden. AI supports information discovery and analysis in an SPE research portal. Paper presented at *SPE Annual Technical Conference and Exhibition*, September, 2018. Society of Petroleum Engineers. SPE-191758-MS.

R. Smith, E. Schoen, J. Tenenbaum. An overview of early AI applications at Schlumberger. In *IEEE Annals of the History of Computing*. Forthcoming.

R. Smith, B. Buchanan, E. Schoen, J. Eckroth, D. Endres, S. Florez, and J. Elliott. Connecting information to knowledge in the SPE research portal and beyond. *The Way Ahead*. Society of Petroleum Engineers. Forthcoming.