Shimon Schocken

Education

Ph.D.   University of Pennsylvania, Wharton School, 1987
             Operations, Information and Decisions. Thesis supervisor: Paul Kleindorfer

M.B.A.   Indiana University, 1982
             Operations and Systems Management

B.A.   Hebrew University of Jerusalem, 1980
             Economics and Computer Science

Academic appointments

2022 – present	Visiting Professor School of Engineering and Applied Science, Princeton University
1997 – present	Professor Efi Arazi School of Computer Science, Reichman University
2018 – 2022	Visiting professor Computer Science department, Hebrew University
2012	Visiting professor Computer Science department, Stanford University
1996 – 2006	Dean and Founder Efi Arazi School of Computer Science, Reichman University
2005	Visiting professor Division of Engineering and Applied Sciences, Harvard University
1995 – 1997	Visiting professor Reichman University
1994 – 1997	Associate Professor Technology and Operations, Stern School, New York University
1986 – 1993	Assistant Professor Technology and Operations, Stern School, New York University
1994 (summer)	Visiting professor Information Systems, Rotterdam School of Management, Erasmus University
1990 – 1991	Visiting professor Information Systems, Coller School of Management, Tel-Aviv University
1985 – 1986	Instructor Operations, Information and Decisions, Wharton School, University of Pennsylvania

Other academic appointments

2020 – 2022	Director, Computer Science Honors Program, Reichman University
2022 – present	Director and co-founder, Google – Reichman School of Technology

2018 – 2022	Director and co-Founder, WeCode, a social programming bootcamp, Reichman University
2009 – 2012	Chairman, Computer Science Education Committee, Israel's Ministry of Education
1992 – 1995	Director, Undergraduate Program in Information Systems, New York University

Awards and grants

William R. Kenan Jr. Visiting Professorship for Distinguished Teaching, Princeton University, 2022

Coursera Top Instructor, since 2018

Google EDU Award, for developing WeCode, a social programming bootcamp, 2018, renewed 2019

Outstanding Teacher Award, Reichman University, 2010

Google EDU Award, for developing games that teach computer science, 2009, renewed 2010

IBM Eclipse Scholar grant, for developing software engineering tools, 2005

MOST (*Multimedia On-Line Systems Technologies*) *Consortium* / MAGNET program of Israel's Industrial and Commerce Ministry, for digital media education projects, 1997–2000

ACM SIGMIS Best Doctoral Dissertation Award, 1988

University of Pennsylvania Fellowship for Academic Excellence, 1983

Hebrew University / Indiana University Exchange Program Award, 1980

Dean's List, Hebrew University of Jerusalem, 1979 / 1980

Books

The Elements of Computing Systems, with Noam Nisan. MIT Press, 2005, second edition, 2021. International editions: Chinese (2008), Polish (2009), Indian (2010), Japanese (2013), Korean (2018)

The Art of Business Programming, McGraw-Hill, 1992

If A then B... Probably, ICIT Press, 1990

Articles

Standardized Frameworks for Distributed Learning. Journal of Asynchronous Learning Networks, July 2001

Neural Networks for Decision Support (invited article). With Roger Stein and Vasant Dhar. Encyclopedia of Computer Science and Technology, Marcel Dekker Publishing: New York., 1997

Toward a Logical/Physical Theory of Spreadsheet Modeling, with T. Isakowitz and H. Lucas. ACM Transactions on Information Systems 13(1), 1994

Neural Networks for Decision Support: Problems and Opportunities, with G. Ariav. Decision Support Systems, 11(1), 1994

Reframing Decision Problems Using Graph-Grammar, with C. Jones. Information Systems Research, 4(1), 1993

On the Use of the Dempster-Shafer Model in Information Indexing and Retrieval, with R.A. Hummel. International Journal of Man-Machine Studies, 39(5), 1993

Multilayer Feedforward Networks With Non-Polynomial Activation Functions Can Approximate Any Continuous Function, with M. Leshno, V. Lin, and A. Pinkus. Journal of Neural Networks, 6(3), 1993

An Experimental Comparison of Two Rule-Based Belief Languages, with Y.M. Wang. <u>Information Systems Research</u>, 4(4), 1993

Prolog Meta-Interpreters for Rule-Based Reasoning Under Uncertainty, with T. Finin. <u>Decision Support Systems</u>, 6(2), 1990

Artificial Intelligence Dialects of the Bayesian Belief Revision Language, with P. Kleindorfer. <u>IEEE Transactions on Systems, Man and Cybernetics</u>, 19(5), 1989

On the Rational Scope of Probabilistic Rule-Based Inference Systems: In: <u>Uncertainty in Artificial Intelligence</u>, Lemmer, J.F. and Kanal, L.N., (Eds.), North-Holland, 1988.

Conference papers / workshops

Using Games to Teach Early Age Algebra. EDULEARN Conference, 2018

Building a Modern Computer from First Principles. SIGCSE Conference, 2018

Early Age Mathematics Education. ICME-13 Conference, 2016

Mobile Learning and Early Age Mathematics Education. Mobile Learning Conference, 2014

Taming Complexity in Large-Scale Systems Projects. SIGCSE Conference, 2011

Virtual Machines: Abstraction and Implementation. SIGCSE Conference, 2009

A Synthesis Course in Hardware Architecture, Compilers, and Software Engineering. ITiCSE Conference, 2009

Building a Modern Computer from First Principles. SIGCSE Conference, 2005

From Nand to Tetris in 12 Steps. FIE (Frontiers in Education) Conference, 2004

Building a Modern Computer from First Principles. SIGCSE Conference, 2004

Multi-Group/Multi-Player Negotiation Process. With R.A. Hummel. Proceedings of the HICSS-27 conference, 1994

A Dempster-Shafer Model of Relevance. With J. Pyun. Proceedings of the HICSS-23 conference, 1990

The Objective, Logical and Subjective Views of Uncertainty: a Decision Support Perspective Proceedings of DSS-88, 1988

A Framework for Comparative Analysis of Belief Revision Models in Rule-Based Expert Systems. Proceedings of the HICSS-22 conference, 1989

An APL-Based Relational Data Model. Proceedings of the 3rd Conference on Academic Computing, Purdue University, 1981

Other publications

Oded Goldreich and the Israel Award Controversy, with Alon Rosen, Haaretz (Israeli daily newspaper), April 2021

Alan Turing Biography (invited book review), Haaretz, July 2007

Mountain Biking in Israel, Kinneret-Zmora-Bitan (book), 2006

Snails are Faster than ADSL, Annals of Improbable Research, Volume 11, Issue 4, 2005

The Double Helix (invited book review), Haaretz, July 2004

On Compass and Straightedge, Haaretz, August 2002, reprinted in Alaxon, 2013

Education in the year 2000's, published originally in 1997 in Globes (Israeli daily), reprinted subsequently in People and Computers, Technology Trends, and Zombit (Israeli trade Journals).

From New York to Herzliya in a Mouse Click, Haaretz, December 1995

The Statistics Umbrella, Haaretz, Haaretz, August 1991

Educational development activities

WeCode (with Yoav Shoham): Co-founder and academic director of this non-profit bootcamp that trains underprivileged learners for software development jobs (since 2018, 100+ graduates, 90% placement)

Google – Reichman School of Technology: Co-founder and academic director of this new school, designed to scale and extend WeCode's activities (founded 2022)

From Nand to Tetris / Part I: Coursera. Student rating: 4.9/5.0. Listed on Coursera's Top Rated Courses list (since 2015)

From Nand to Tetris / Part II: Coursera. Student rating: 4.9/5.0. Listed on Coursera's Top Rated Courses list (since 2016)

Matific (with Raz Kupferman, Shmulik London, and Leon Kamenev), a repository of computer games that support elementary school mathematics education. Used in 60+ countries and 40+ languages. Won the Codie Award for the Best Mathematics Education Solution (2017 and 2018)

Computer Architectures: Developed this program, which now constitutes 30% of the national computer science curriculum of Israel's high school system

Computer Science Without Computers (with Benny Chor): A collection of board and outdoor games that teach computer science. Won the *Google EDU Award* (2009 and 2010)

Invited talks and seminars

(CS Colloquium = invited talk in a computer science department)

India Principles Network (IPN) Master Class, June 2020

SAP Developers Meeting (keynote), Israel, September 2019

Columbia University, New York, CS Colloquium, June 2019

University of California, Berkeley, Science Education Colloquium, April 2019

University of California, Santa Barbara, CS Colloquium, April 2019

Learning Analytics Conference, Weizmann Institute, March 2019

IIT Bombay E-Summit Conference, January 2019

IIT Delhi, CS Colloquium, January 2019

Education World Forum Conference (keynote), London, January 2018

University of Tokyo, CS Colloquium, October 2017

Kyoto University, CS Colloquium, October 2017

University of California, Los Angeles, CS Colloquium, April 2017

Software Engineering Education Conference (keynote), Israel, February 2017

Israel Science Academy, Israel, February 2017

MALAG/edX Conference, September 2016

University of Canterbury, New Zealand, CS Colloquium, February 2016

SELA Software Developers Conference (keynote), Israel, December 2015

University of the Andes, Colombia, CS Colloquium, November 2015

ScolarTIC Educational Technology Conference 2015 (keynote), Colombia, November 2015

Haifa University, CS Colloquium, June 2015

MindCET conference (keynote), Israel, June 2015

Jewish Funders Network Conference, Israel, March 2015

Galillee Teachers Conference (keynote), Israel, December 2014

Cisco, Developers Talk, Israel, October 2014

LINKS Conference, Haifa University, August 2014

LivePerson, Developers Talk, Israel, July 2014

Software Developers Conference (Keynote), Israel, June 2014

HP, Developers Talk, Israel, May 2014

Juvenile Judges Workshop (keynote), Israel, May 2014

Ben Gurion University, CS Colloquium, May 2014

Technion, Science Education Colloquium, Israel, April 2014

Intel Development Center, Developers Talk, Israel, March 2014

Skills Summit conference, London, UK, February 2014

ILAIS 7th conference (keynote), Israel, July 2013

MindCET conference (keynote), Israel, June 2013

SXSWedu conference , Austin, TX, March 2013

MOFET Institute Teachers Conference (keynote), Israel, February 2013

Seminar Hakibutzim Teachers Conference (keynote), Israel, February 2013

BETT conference (keynote), London, January 2013

Weizmann Institute, Science Education Colloquium, Israel, January 2013

Lewinsky Teachers Conference (keynote), Tel Aviv, December 2012

IBM Research, CS Colloquium, Haifa, August 14, 2012

TED Global, Edinburgh, UK, June 2012

Annual Conference of Math Teachers (keynote), Israel, July 2012

Google Tech Talk, Mountain View, May 2012

Washington University, CS Colloquium, May 2012

Navy Postgraduate Academy, CS Colloquium, April 2012

Harvard-Israel Conference 2012, Cambridge, MA, April 2012

Bicycle Leadership Conference, Monterey, CA, April 2012

SUNY Stony Brook, CS Colloquium, March 2012

Stanford University, CS Colloquium, April 2012

Clore Symposium on Science and Society, Israel, November 2011

New York University, CS Colloquium, July 2011

University of Colorado, CS Colloquium, July 2011

TEDx, Tel Aviv, September 2010

Ben Gurion University, CS Colloquium, January 2009

Stanford University, CS Colloquium, October 2008

Google Tech Talk, October 2007

Weizmann Institute, Computer Science Education Colloquium, April 2006

Boston College, CS Colloquium, February 2006

Rannsselaer Polytechnic Institute, CS Colloquium, December 2005

Brown University, CS Colloquium, December 2005

MIT, CS Colloquium, November 2005

August Penguins Conference (keynote), Israel, August 2005

Tel Chai College, May 2005

Harvard University, CS Colloquium, October 2004

University of Pennsylvania, CS Colloquium, January 2004

Moach Conference (keynote), Israel, January 2003

Israeli Java Users Group Conference (keynote), Israel, July 2003

Technion, Math Education Workshop, Israel, July 2003

eTeacher Conference (keynote), Israel, July 2003

Tel Aviv Yafo College, CS Colloquium, May 2003

Weizmann Institute, CS Colloquium, January 2003

Training and Human Resources Conference (keynote), Israel, July 2002

Reichman University, Memorial Talk in Honor of Amos Tversky, December 2002

Israel Business Conference, December 2002

New York University, CS Colloquium, January 2002

Tel Aviv University, CS Colloquium, January 2002

Ben-Gurion University, CS Colloquium, January 2002

National Science Teachers Conference (keynote), Israel, December 2001

Technion, CS Colloquium, February 2001

Israel Business Conference, December 2000

Instructional Technologies Conference, Israel, November 1999.

Haifa University, CS Colloquium, March 1998

Workshop for commanders of IDF computing units, Israel, April 1998

Technion, CS Colloquium, January 1998

Hebrew University, CS Colloquium, May 1997

Open University, Israel, CS Colloquium, August 1996

Tel Aviv University, CS Colloquium, October 1996

Geographical Information Systems Conference (keynote), Israel, July 1996

Webmaster Conference (keynote), Israel, June 1996

Brooklyn Polytechnic, CS Colloquium, October 1994

Erasmus University, Business School Colloquium, Netherlands, July 1994

Georgia State University, CS Colloquium, April 1994

New York University, CS Colloquium, April, 199

US National Consortium of Science Teachers, April 1994

University of Pennsylvania, CS Colloquium, February 1994

Decision Sciences Institute Conference, Hawaii, 1994

University of California, Irvine, CS Colloquium, November 1993

Stanford University, Business School Colloquium, November 1993

New York University, CS Colloquium, October 1993

MIT, CS Colloquium, April 1993

CMU, CS Colloquium, March 1993

Syracuse University, CS Colloquium, October 1992

University of Pennsylvania, CS Colloquium, October 1992

New York University, Business School Colloquium, October 1992

Tel Aviv University, CS Colloquium, February 1992

New York University, Business School Colloquium, June 1991

Tel Aviv University, CS Colloquium, June 1991

Tel Aviv University, School of Management Colloquium, February 1991

Tel Aviv University, School of Management Colloquium, October 1990

International Conference of Information Systems (ICIS), Copenhagen, Denmark, 1990

New York University, Business School Colloquium, April 1990

IEEE Conference on Systems, Man, and Cybernetics, Cambridge, MA, 1989

The Prolog Users Forum, New York, March 1989

MIT, Sloan School Colloquium, April 1986

The Navy Postgraduate Academy, CS Colloquium, March 1986

Boston University, CS Colloquium, December 1985

Reviewing

Served as member of the editorial board of the Journal of Asynchronous Learning Networks (JALN), and referee for Management Science, Decision Science, Communications of the ACM, Management Information Systems Quarterly, Information Systems Research, Journal of Strategic Information Systems, Decision Support Systems, Computers and Mathematics with Applications, IEEE Transactions on Pattern Analysis and Machine Intelligence, International Journal of Man-Machine Studies, SIGMOD International Conference on Management of Data, Journal of Accounting, Auditing and Finance International Conference of information systems, Oxford University Press, and the National Science Foundation.

Supervision of graduate students

Boaz Schwarzman, M.Sc., Reichman University, thesis title: *Evolutionary Models of Artificial Neural Networks*, member of thesis committee, 2021

Adi Green, Ph.D., Tel Aviv University, thesis title: *Comparative Analysis of Two Approaches to Teaching Object-Oriented Programming*, member of thesis committee, 2018

Ilia Pogrebezky, M.Sc., Reichman University, thesis title: *From Natural Language Descriptions to Executable Scenarios*, member of thesis committee, 2012

Roee Sela, M.Sc., Reichman University, thesis title: *Computer Science Fundamentals for Children*, 2012, chairman of thesis committee, 2012

Sagi Schlisser, M.Sc., Reichman University, thesis title: *Gesture-Based User Interface for Reading Systems*, chairman of thesis committee, 2009

Hanan Avidan, M.Sc., Reichman University, thesis title: *CS Curriculum for Junior High Schools in Israel*, chairman of thesis committee, 2010

Yossi Cohen, M.Sc., Tel-Aviv University, thesis title: *Database Programs Analysis Using Query Graphs, member of M.Sc. thesis committee*, 2000

Jisurk Pyun, Ph.D., NYU, thesis title: *An Investigation of Inexact Classification and Browsing Techniques in Hierarchical Document Retrieval System*, doctoral thesis supervisor, 1990

Y.M. Wang , Ph.D., NYU, thesis title: *An Experimental Comparison of Rule-Based Belief Languages*, doctoral thesis supervisor, 1993

Randy Forsstrom, Ph.D., NYU, thesis title: *An Examination of Alternative Inference Mechanisms for Reasoning Under Uncertainty in Rule-Based Systems*, doctoral thesis supervisor, 1988

S. Bhasker, Ph.D. candidate, NYU, chairman of qualifying examination committee, 1990

Shankar Bhattacharyya: Ph.D. candidate, NYU, 1990, chairman of qualifying examination committee

Ajay Ashtana: Ph.D., NYU, thesis title: *LPGRAPH: An Iconic Language for Formulating Linear Programs, member of dissertation committee*, 1988

Yon Suk Sohn: Ph.D. candidate, NYU, member of qualifying exam. Committee, 1989

Abraham Schwarz: Ph.D. candidate, NYU, member of qualifying examination committee, 1992

Nacshon Margaliot: Ph.D., Tel Aviv University, member of dissertation committee, 1991

Aviad Armoni: Ph.D., Tel Aviv University, member of dissertation committee, 1991

Courses, developed and taught

(UG = undergraduate level, graduate = M.Sc. / Ph.D. level)

Introduction to Computer science, Reichman University (UG)

Introduction to Programming, Reichman University (UG)

Digital Systems Construction, Reichman University (UG / Graduate)

Database Management, Reichman University (UG / Graduate)

Computer Science Unplugged, Reichman University (UG)

Topics in Computer Science, Reichman University (UG)

Great Explorers, Reichman University (UG)

Nand to Tetris, Reichman University, Harvard, Stanford (UG / Graduate)

Internet Entrepreneurship, Reichman University (Graduate)

Information Systems Management, NYU (UG)

Information Systems Management, Wharton (Graduate)

Decision Support Systems, NYU, Wharton (Graduate)

Decision Theory in Artificial Intelligence, NYU (Graduate)

Decision Theory in Behavioral Economics, NYU (Graduate)

Neural Networks, NYU (Graduate)

Digital Commerce Workshop, Israeli Export Institute (Executive Education)

Innovation Forum, IDC (Executive Education)

Leadership at Large, IDC (Executive Education)

Professional activities

(MALAG = Council for Higher Education, regulator of Israel's universities and colleges)

Member, MALAG accreditation committee (Tel Aviv College, B.A. program), 2022

Member, MALAG committee on on-line courses, 2017

Chairman, MALAG accreditation committee (Tel-Hai College, M.Sc. computer science program), 2016

Chairman, MALAG accreditation committee (Safad College, M.Sc. information systems program), 2018

Chairman, TEDxTelAviv Conference, 2009

Member, committees that evaluate research grant requests from the Israel Science Foundation

Member, search committee for Israel's Chief Scientist (a government office), 2001

Member, executive committee of the Israeli Association of Systems Analysts, 2001

Member, Ministry of Education committee to evaluate accreditation of e-learning programs, 2000

Prehistoric activities

Expert witness, commercial litigations involving patent infringements cases, USA and Israel, 1990's

Chairman and co-Founder, JUG.il, Israeli Chapter of Java Software Developers, 1998

Member, Ministry of Science committee on "Israel's economy and the Information Superhighway", 1997

Member, Ministry of Science committee that allocated government grants for national Internet projects, 1995

Consultant, Weintraub Gallery, New York. Built a gallery management and inventory control system, 1980's

Consultant, ZOA New York. Built operational and office automation systems, 1980's

Systems engineer, Wang Laboratories, Burlington, MA, 1981–1982

Systems analyst, LLN Corp., Israel, 1979–1980

Company commander (rank Captain), paratroopers, IDF, 1972–1976

Community activities

Founder and director, *Rides of Hope*, mountain biking programs for juvenile delinquents, since 2010

President, the Schocken Foundation, supports 100+ cultural and social programs in Israel and the USA, since 2012

Fresh Air Fund, New York, hosting children from deprived backgrounds, 1990's.

Personal details

Born April 1, 1954. Married to Iris Schocken, a practicing clinical social worker and psychotherapist. Father of Gidon, born 1983, Merav, born 1986 and Eyal, born 1991. Israeli citizenship.

Contact information

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