

July 24, 2004

RESUME

Amir TOMER



Israeli ID #: 0-5183237-6
Born 22 May, 1953, Nahariya, Israel
Married with two children.

Academic Degrees

1979

B.Sc. (cum laude) Computer Science, Technion Israel Institute of Technology, Haifa, Israel.

1982

M.Sc. Computer Science, Technion Israel Institute of Technology, Haifa, Israel.

1992

Ph.D. Computing, Imperial College of Science, Technology & Medicine, London, UK.

Academic Appointments

1994-current

Technion – Faculty of Computer Science
Senior Adjunct Lecturer.

1998-1999 (on Sabbatical leave from RAFAEL)

Technion – Faculty of Computer Science
Visiting Scientist.

1979-1982

Technion – Faculty of Computer Science
Teaching Assistant.

Professional Experience

1999- current

RAFAEL (Armament Development Authority) - corporate management
Director of Systems & Software Engineering Processes. Definition, assimilation and improvement of Systems and S/W Engineering processes across the organization, utilizing international standards such as ISO 9001, ISO 9000-3, SW-CMM and CMMI-SE/SW. SEPG chair.

1996 - 1998

RAFAEL - Electronics Systems Division
C⁴I Systems Engineer. System/Software analysis and design of a large scale military Command, Control, Communication, Computing and Intelligence (C⁴I) system, using Object Oriented methods, including UML.

1993 - 1996

RAFAEL - Electronics Systems Division
Software Section Head. Responsibility for most of the software development activity of the division. In charge of ~120 software engineers, both employees and sub-contractors.

1992 - 1993

RAFAEL - Electronics Systems Division

Software Team Leader of a COMINT (COMmunication INTelligence) project.

1987 - 1989

RAFAEL - Electronics Systems Division

Expert Systems Group Head. Research and development of expert systems for fault diagnosis and military applications.

1985 - 1987

RAFAEL - Computing Centre

Expert Systems Group Head. Research and development of expert systems for fault diagnosis and military applications.

1982 - 1985

RAFAEL - Computing Centre

Software Engineer. Computer graphics and automated industrial systems.

Research Interests

- Software development, maintenance and evolution.
- Software reuse.
- Software Product Lines.
- Object Oriented Analysis and Design.
- Software Process Improvement, CMM.
- Systems Engineering Process Improvement, CMMI.

Teaching Experience

Software Engineering Methods (236321), graduate+undergraduate, **Faculty of computer science, Technion, Haifa**. 6 classes.

Introduction to Software Engineering, undergraduate, **External Studies, Technion. Haifa**. 3 classes.

Software Engineering (199411), undergraduate, **Computer Science, Tel-Hai Academic College**. 3 classes.

Topics in Software Engineering for Managers (, graduate, Centre for Quality Assurance and Reliability, Technion, Haifa. 3 classes.

Programming Languages (236319), graduate+undergraduate, **Faculty of computer science, Technion, Haifa**. 6 classes.

Prolog language and introduction to expert systems, a 60-hours course for engineers, **RAFAEL**.

Introduction to Programming, undergraduate, **EREZ – Technological College, Shlomi**.

Introduction to Artificial Intelligence, undergraduate, **EREZ – Technological College, Shlomi**.

Membership in Professional Societies

- IEEE – Computer Society.
- Israely Society for Quality (ISQ)

- ISPIN (Israel Software Process Improvement Network)
- INCOSE_IL (The Israeli chapter of INCOSE)

Honors

1989 - 1992

3 years tuition fee exempt scholarship (ORS [Overseas Research Students] program), awarded by British Ministry of Education.

1991 - 1992

18 months living expenses scholarship towards the Ph.D. degree at Imperial College, London, awarded by RAFAEL.

2000

“Best Lecturer” – Computer Science Department, Winter, 1999.

2002

“Best Technical Paper” award, Software Management 2002 conference, Anaheim, CA, February 2002.

Significant Professional Projects

1999 - 2001

Rafael’s qualification for SW-CMM, level 3. Project Manager, RAFAEL.

2000 - 2003

The ISWRIC (Israel SoftWare Reuse Industrial Consortium) Project. Project Management Member.

Publications

Theses

Tomer A., *The use of net-oriented models to the specification and validation of communication protocols*, M.Sc. Thesis (Supervisor: Prof. M. Yoeli), Computer Science Department, Technion, Israel, 1982.

Tomer A., *Implementing specifications using logic with inheritance*, Ph.D. Thesis (Supervisor: Dr. C. J. Hogger), Imperial College of Science, Technology and Medicine, University of London, London, UK, 1992.

Refereed papers in professional journals

Tomer, A. & Hogger, C. J., Implementing specifications by dynamic inheritance, *New Generation Computing*, Vol. 12, No. 2, February 1994, pp. 183-208.

Schach, S. R. and Tomer, A., A Maintenance-Oriented Approach to Software Construction, *Journal of Software Maintenance: Research and Practice*, vol. 12, February, 2000, pp. 25-45.

Tomer, A. and Schach, S. R., A Three-dimensional Model for System Design Evolution, *Journal of Systems Engineering*, Vol. 5, No. 4, 2002.

Tomer, A., Goldin, L., Kuflik, T., Kimchi, E. and Schach, S.R., Evaluating Software Reuse Alternatives: A Model and its Application to an Industrial Case Study, *IEEE Transactions on Software Engineering*, to appear.

Conferences

Contributed Talks

On the application of extended Petri nets to the verification of protocols, 2nd European workshop on applications and theory of Petri nets, Bad-Honef Germany, September, 1981

Software systems in hierarchical control of an automated factory (in Hebrew), A conference on ROBOTICS (Israel Association for Automatic Control), Hertzeliya, Israel, March, 1983

YOAV - a prototype expert system for consultation and diagnosis (in Hebrew), 4th national conference on AI, Kfar Maccabiah, Israel, December, 1987

Software Development as an Inherent Reengineering Process, The Fifth National Conference of the Israel Society for Quality, Haifa, Israel, November, 1999.

From ISO to CMM and Back: Software Process Improvement at Rafael, The Millenium International Conference of the Israeli Society for Quality, Jerusalem, November, 2000.

Tomer, A. and Mizrahi, H., *From CMM to CMMI – Organizational Improvement Processes*, The 6th National Conference of the Israel Society for Quality, Tel-Aviv, November 2001 (accepted).

Tomer, A., *CMM/CMMI as an Organizational Quality Language*, The 6th National Conference of the Israel Society for Quality, Tel-Aviv, November 2001 (accepted).

Tomer, A., *Iterative Software Development — From Theory to Practice*, The 1st International Conference on Software Management, Anaheim, CA, February 2002. [**"Best Technical Paper" award**]

Tomer, A., *The Entire Organization as SEPG*, The 14th Software Engineering Process Group Conference (SEPG'2002), Phoenix, AZ, February 2002.

Tomer, A. and Shoshany, S., *Systems Engineering and Software Engineering*, The 1st National Conference on Systems Engineering, (INCOSE_IL 2002), Hertzliyah, Israel, March, 2002.

Schach, S. R. and Tomer, A., *A Three-Dimensional Model for System Design Evolution*, The 1st National Conference on Systems Engineering, (INCOSE_IL 2002), Hertzliyah, Israel, March, 2002.

Refereed papers in conference proceedings

Tomer, A., "An implementation methodology with constructive inheritance", *Proc. of the 10th Israeli conference on AI, Computer Vision & Neural Networks*, IAAI, Ramat Gan, Israel, December 1993, pp. 129-140.

Tomer, A. & Hogger, C. J., "A logic approach to knowledge-based engineering", *Applications of artificial intelligence in engineering IX* (G. Rzevski et al, Eds.) (Proc. of AIENG'94, Malvern, PA, July 1994), Computational Mechanics Publications, Southampton, 1994, pp. 237-245.

Tomer, A and Schach, S. R., “The Evolution Tree: A Maintenance-Oriented Software Development Model”, *Proceedings of the Fourth European Conference on Software Maintenance and Reengineering (CSMR'2000)*, Zurich, Switzerland, February/March 2000, pp. 209-214.

Schach, S. R. and Tomer, A., “Development/Maintenance/Reuse: Software Evolution in Product Lines”, *Proceedings of the First Software Product Lines Conference (SPLCI)*, Denver, USA, August, 2000, pp. 437-450.