Anca-Juliana Stoica, Ph.D.

Docent, Department of Information Technology, UU

Associate Professor Computer and System Sciences, KTH/SU

Senior Member IEEE

ACADEMIC POSITIONS AND EMPLOYMENTS

Docent in Electrical Engineering/Automatic Control at Department of Information Technology, Uppsala University, from 2018

Visiting Researcher at Department of Information Technology, Division of Computing Science, Uppsala University, from 2011-present

Associate Professor in Computer and System Sciences at DSV Department Royal Institute of Technology and Stockholm University, 2002-2010

Senior Lecturer in Software and System Engineering at Royal Institute of Technology School of Applied IT, 2002-2003

Lecturer in Computer Science at Royal Institute of Technology, School of Applied IT, 2000-2002

Visiting Professor at Stanford University Computer Science Department, 1999-2000

Senior Lecturer in Computer Science at Uppsala University, 1998-1999

Consulting Professor at University of Florida Electrical and Computer Engineering Department, from 2016

Senior member IEEE, from 2000-present

TEACHING

Programmes

- Uppsala University: *Computer Science; Computer and Information Engineering*
- Royal Institute of Technology/ Stockholm University: *Computer Science; International Program in Engineering and Management of Information Systems; International Program in Information and Communication Systems Security*
- Stanford University: *Graduate Program in Computer Science*

Courses

- Uppsala University
  - Software Engineering II- Value-Based Software Engineering
  - Theory of Computer Systems
  - Fundamentals of Database Systems
  - Operating Systems and System Programming
  - Compiler Theory

- - - o   Analytical Methods in Software Engineering Economics
    - o   Software Engineering

- Royal Institute of Technology/ Stockholm University

    - o   IT Master Thesis Course in Computer and System Sciences
    - o   Value-Based Software Engineering
    - o   Software Engineering and Security Architecture
    - o   Current Problems in Software Engineering
    - o   Analytical Methods in Software Engineering Economics
    - o   Software Engineering
    - o   Project Management, Methods, and Tools
    - o   Transactions and Database Project
    - o   IT och ingenjörsmetodik

- Stanford University

    - o   Processes and Tools for Large-Scale Software Development

ACADEMIC SUPERVISION
- Degree theses at Uppsala University and Royal Institute of Technology/ Stockholm University 2000-present

RESEARCH

Anca's research interests are in the field of software and system engineering, in particular at the intersection between theory and practice: development methods, mathematical models, optimization, metrics, processes, value-based and dependable systems, and IT project management. Lately, she has been working in the area of theory-based software engineering (TOSE). During 2015-2016 she published her research on System Components of a General Theory of Software Engineering in the Journal Science of Computer Programming (Elsevier), and presented her work in an invited talk at the TOSE workshop organized during the International Conference on Software Engineering (ICSE) in Austin, Texas, USA. The article has been ranked number 1 in the top 25 of the hottest papers published by the journal in 2015. The aforementioned article was also included in the ScienceDirect Top 25 list of most downloaded papers in the last 3 months (from Nov 2015 to Feb 2016, among papers covering a time span of ~33 years).

PUBLICATIONS

A list of selected publications and communications is included.

My present and past personal home pages at Uppsala University, Royal Institute of Technology and Stockholm University (DSV Department) are:

http://user.it.uu.se/~anjustoi

http://user.it.uu.se/~ajstoica

https://people.dsv.su.se/~anca

Selected publications and communications

Journal articles and contributions to scientific conferences

A.J. Stoica, K. Pelckmans, W. Rowe, *System Components of a General Theory of Software Engineering*. In Elsevier Science, Science of Computer Programming, Special Issue on General Theories of Software Engineering, ISSN 0167-6423, Vol. 101, pp 42-65, 2015.

A.J. Stoica, S. Islam, *Integrative Educational Approach Oriented Towards Software and Systems Development*. In International Journal of Engineering Pedagogy (iJEP), Volume 3, Issue 1, pp 36-43, 2013.

A.J. Stoica, S.Islam, *Teaching Information and Software Security Courses in Regular and Distance Learning Programs*. In: Proceedings IEEE EDUCON Engineering Education Conference, Berlin, Germany, March 13-17, 2013.

A.J. Stoica, S. Islam*, Concurrent View Modeling for Software Risk Management at Early Development Stage*. In: Proceedings International Conference on Theory and Practice in Modern Computing, Lisbon, Portugal, July 17-23, 2012.

A.J. Stoica, S. Islam*, Educational Methods for Software and Systems Development*. In: Proceedings 15th International Conference on Interactive Computer Aided Learning, Villach, Austria, September 26-28, 2012.

A.J. Stoica, P. Babu, P. Stoica, *Quantitative Framework for Managing Software Life-Cycle*. In *The Open Software Engineering Journal*, Bentham Science Publishers Ltd, volume 5, number 1, pp 1-18, 2011.

A.J. Stoica, *Demonstrating Early Value in Software System Projects Using Software and System Models*. In: Proceedings 26th International Forum on Systems/Software Cost Modeling, USC-CSSE, L.A., USA, Nov. 2011.

A.J. Stoica, M. Nael, *Agile Software Development and ISO/IEC Software Quality Standards: Measuring Economic Benefits and Calculating Quantitative Yields*. In : Proceedings 25th International Forum on Systems/Software Cost Modeling, USC-CSSE, L.A., USA, Nov. 2010.

A.J. Stoica, *Exploring Quantitative Yields of Software Engineering Methods in the Software Life-Cycle*. First IEEE International Conference on Exploring Quantifiable IT Yields, EQUITY 2007 Report, Amsterdam, Netherlands, March 2007.

Stoica, R. Moses, P. Stoica, *Enforcing Positiveness on Estimated Spectral Densities*. Electronic Letters,Vol.29, Issue 23, pp 2009-2011, Nov. l993.

A.J. Stoica, M. Mushabbar, S. Mushabbar Sadiq, *Stakeholder/Value Approach to Integrating System Development Model and Dependability Analysis: CS-GPE Case Study*. Proceedings of the 19th International Forum on Software and System Cost Modeling, Los Angeles, U.S.A., Oct 2004.

A.J. Stoica, *An Internet-Intranet Solution for Software System Estimation with Use Cases*. Proceedings of the 18th International Forum on Software Cost Modeling, USC-CSE, USA, Oct 2003.

A.J. Stoica, *Aspects of Building Web Application Systems using the MBASE Approach*. Proceedings of the 15th International Forum on Software Cost Modeling, USC-CSE, USA, Oct 2000.

A.J. Stoica, *Facets of Software Development Represented by Model Systems: Analysis and Enhancement*. Proceedings of the 14th International Forum on Software Cost Modeling , USC-CSE, USA, Oct 1999.

A.J. Stoica*, A Decisional Framework in Software Design*. Position paper, 21st International Conference on Software Engineering, First Workshop on Economics-Driven Software Engineering Research, L.A., USA, May 1999.

A. Stoica, D. Barbu, *Study on Validation of Software Cost Estimation Models in University Environment*. Polytechnic Institute Bucharest Scientific Bulletin- Electrical Engineering, Vol.52, No.1, p.81-88, 1990.

A. Stoica, C. Ioneci, *AI Implementation of Job Shop Scheduling in Production Systems*. Polytechnic Institute Bucharest Scientific Bulletin- Electical Engineering, Volume 52, Number 2, 1990.

A. Stoica, *Analysis Methodology for Computer Systems Quality and Competitivity Evaluation*. Polytechnic Institute Bucharest, Automatic Control and Computers, Vol L, p.39-51, 1988.

Books, book chapters and lecture notes

A.J. Stoica, H. Lanshammar, B. Sandblad, *Survey on Optimization and Simulation Software and Associated Teaching Activities*. AFR-Report no 76, Swedish Waste Management Council (AFR), National Library of Sweden, 1995.

A.J. Stoica, H. Lanshammar, B. Sandblad*, Selected Topics on Optimization Techniques and Applications.* AFR-Kompendium no.3, Swedish Waste Management Council (AFR), National Library of Sweden, 1995.

G. Wiederhold, D. Beringer, A.J. Stoica, *Tools and Processes for Software*. Lecture notes, CS446, Stanford University Infolab, USA, Fall 1999.

S. Islam, A.J. Stoica, *Software Risk Management Modeling Using Goal-Driven Approach from Early Requirements Engineering.* Book Chapter in *Risk Assessment and Management,* Academy Publish, 2012.

A.J. Stoica, *Software Engineering II – Value-Based Software Engineering.* Course material, Department of Information Technology, Uppsala University, 2015.

A.J. Stoica, *Value-Based Software Engineering*. Compendium, vol. I-II, IT University, Department of Computer and System Sciences (DSV), Kista, Sweden, 2007.

A.J. Stoica, *Software Engineering and Security Architecture* – Lecture Notes, IT University, Department of Computer and System Sciences (DSV), Kista, Sweden, 2004.

A.J. Stoica, *Analytical Methods in Software Engineering Economics*. Compendium, vol. I-II, IT University, Department of Computer and System Sciences (DSV), Kista, Sweden, 2003.

A.J. Stoica, *IT Project Management: Processes, Models, and Tools*. Lecture Notes, Royal Institute of Technology, School of Applied IT, Kista, Sweden, 2000.

A.J. Stoica, *Software Engineering*. Lecture notes, Royal Institute of Technology, School of Applied IT, Kista, Sweden, 2000.

A.J. Stoica*, Software Engineering.* Lecture Notes, Uppsala University, Information Science Dept., Computer and System Science Division, Uppsala, Sweden, Spring 1999.

A.J. Stoica, *Fundamentals of Database Systems*. Lecture Notes, Uppsala University, Information Science Dept., Computer and System Science Division, Uppsala, Sweden, Fall 1998.

A.J. Stoica, *Analytical Methods in Software Engineering Economics*. Lecture notes , Uppsala University, Information Science Dept., Computer and System Science Division, Uppsala, Sweden, Spring 1998.

A.J. Stoica, *Operating Systems and System Programming*. Lecture Notes, Handouts, and Laborations, Uppsala University, ADB Department, Uppsala, Sweden, Fall 1997.

A.Stoica, *Methods and Models for Decision-Making*. (Postgraduate Program Lecture Notes). MIM Press, 1990.

Invited talks, seminars, and reports

A.J. Stoica, K. Pelckmans, *Dynamic Integration of System Components of a GTSE in Practice.* Invited Talk, TOSE 2016: The 5th International Workshop on Theory-Oriented Software Engineering. In conjunction with The 38th International Conference on Software Engineering (ICSE 2016), Austin, Texas, USA.

A.J. Stoica, *Aspects of Value-Based and Strategic Software and System Engineering Research*. UPMARC Seminar, Uppsala University, IT Department, Uppsala, Sweden, 2012.

A.J.Stoica, *VB and S*3 Research: Theory, Frameworks, and Examples*. Invited lecture EEC 6935, Dept. of Electrical and Computer Engineering, University of Florida, Gainesville, USA, 2012.

A.J. Stoica*, Strategies and Challenges in Designing Communication Solutions for Large Scale Public Events: A Holistic Approach.* Seminar at Dept. of Electrical and Computer Engineering, University of Florida, Gainesville, USA, Dec. 2009.

A.J. Stoica, *Early Architectural Model of a Dependable Communication System*. Seminar at Stanford University, Dept. of Electrical Engineering, Information Systems Laboratory, USA, Nov. 2004.

A.J. Stoica, *An Internet-Intranet Solution for Software System Estimation with Use Cases.* CISE Colloquium Speakers, Dept. of Computer and Information Science and Engineering, (CISE),University of Florida, Gainesville, USA, Jan. 2004.

A.J. Stoica, *Applying Methods for Software and System Development*. Invited talk, Dept. of Electrical and Computer Engineering, University of Florida, Gainesville, USA, Spring 2002.

A.J. Stoica*, Model Systems: Analysis and Enhancement*. CISE Colloquium Speakers, Dept. of Computer and Information Science and Engineering (CISE), University of Florida, Gainesville, USA, May 2002.

A.J. Stoica, *A Survey of Software and System Development Methods*. CISE Colloquium Speakers, Dept. of Computer and Information Science and Engineering (CISE), University of Florida, Gainesville, USA, May 2002.

A.J. Stoica, *Project Methods for Software and System Development – An Academic Approach.*Seminar at Royal Institute of Technology, Department of Applied IT, Kista, Sweden, March 2002.

A.J. Stoica, *A Theoretical Decisional Framework for Software Process and Applications*.Technical Report, Uppsala University, Uppsala, Sweden, April 1999.

A.J. Stoica, *Learning and Improvement for Software Engineering Data Analyses.* Tuesday Afternoon Seminars at DoCS, Dept. of Computer Systems, Uppsala University, Sweden, May 28, 1996.
A.J. Stoica*, Some Aspects of Computer Based System Management Optimization.* Tuesday Afternoon Seminars at DoCS, Dept. of Computer Systems, Uppsala University, Sweden, May 21, 1996.
A.J. Stoica, *Trends and Selected Topics from the 29th ASILOMAR Conference on Signals, Systems, and Computers,* Pacific Grove, CA, USA, Nov. 1995, Presented to Tuesday Afternoon Seminars at DoCS, Dept. of Computer Systems, Uppsala University, Sweden, Jan. 1996.
A.J. Stoica, *Technical Aspects of Time Series Analysis, Modelling and Prediction*. Högre seminarium i ekonomiska informationssystem, Tekniska Högsskola i Linköping, Sweden, Oct. 14, 1993.
A.J. Stoica, *Studies on Modeling Technical Business Interactions and Networks*. Högre seminarium i ekonomiska informationssystem, Tekniska Högskolan i Linköping, Sweden, Oct. 14, 1993.
A. Stoica, *A Concept for Information Systems Evaluation*. The 4th SEIC (Systems Engineering, Informatics, and Cybernetics) National Symposium, University Polytechnica Bucharest, June 2-3, 1990.
A. Stoica, *Programmable Decisions in Discrete Dynamic Systems*. The CNETAC (Computers, Networks, Telecommunications, and Automatic Control) Conference, Bucharest, Dec.7-9, 1988.

Research contracts and projects with companies and organizations

A.J. Stoica, M. Mushabbar, S. Mushabbar-Sadiq, *Secure and Reliable Communication System for Large Scale Public Events.* Department of Computer and System Sciences, Stockholm University/Royal Institute of Technology – Ericsson Research EAB/TGL, Kista, Stockholm, 2004.
A.J. Stoica, H. Lanshammar, B. Sandblad*, Educational Development in System Analysis.* Uppsala University, System Analysis Division, Uppsala – Swedish Waste Research Council (AFR), Stockholm, 1994.
P. Stoica, A. Stoica, *Algorithms and Software Programs for the Technological Processes Experimental Modelling and Optimization*. Res. contract University Polithehnica of Bucharest (UPB) - Brazi Petrochemical Company, no.8-7-9/1988-1990.
A. Stoica, *Analysis Methodologies for Computer Systems Quality Evaluation – A System Approach.* Res. contract UPB - Computer Enterprise no. 7-6-10/1987.
P. Stoica, A Stoica*, On-Line and Off-Line Identification Programs*. Research contract UPB – Institute for Automation, no.11-5-2/1985-1986.
A. Stoica*, Technical and Economic Decisions in the Design, Production and Marketing of Computer Systems.* Res. contract UPB - Computer Enterprise no. 9-4-5/1985.