

Curriculum Vitae

Personal Data:

- Name: Sarmadi
- First Name: Nima
- Date of Birth: 8. 8. 1975
- Place of Birth: Iran
- Marital Status: Married
- Address: No. 25, Merck st., Darmstadt, Germany.
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Education:

- 2006-present: Ph.D. student in communication systems group (ongoing), Technical University of Darmstadt, Germany.
- 1998-2001: Master of Science (M.Sc.) in Electrical Engineering-Control, K. N. Toosi university of technology, Tehran, Iran.
Thesis: "*Time series forecasting using neuro-fuzzy and cerebellar model arithmetic computer (CMAC) approach*".
Ranked 94th among almost 7000 engineers and senior students in the national-wide entrance examination of the universities for M.Sc. Degree.
- 1993-1998: Bachelor of Science (B.Sc.) in Electrical Engineering-Control, university of Tehran, Iran.
Ranked 171st among almost 320,000 pre-university students in the national-wide entrance examination of the universities for B.Sc. Degree.
- 1986-1993: High school diploma in mathematics and physical sciences, national organization for developing exceptional talents (NODET), Allameh Helli school, Tehran, Iran.
Ranked in top 0.1% of the students in the national-wide entrance examination of NODET.

Publications:

Journals:

- N. Sarmadi, M. Pesavento and A. B. Gershman, "Closed-form blind channel estimation in orthogonally coded MIMO-OFDM systems," to be submitted to *IEEE Trans. Signal Process.*
- N. Sarmadi, S. Shahbazpanahi and A. B. Gershman, "Blind channel estimation in orthogonally coded MIMO-OFDM systems: a semidefinite relaxation approach," *IEEE Trans. Signal Process.*, vol. 57, pp. 2354-2364, June 2009.

Conferences:

- F. Römer, N. Sarmadi, B. Song, M. Haardt, M. Pesavento and A. B. Gershman, "Tensor-based semi-blind channel estimation for MIMO OSTBC-coded

- systems", *Asilomar conference on signals, systems and computers*, Pacific Grove, CA, USA, 6-9 Nov., 2011.
- N. Sarmadi and M. Pesavento, "Closed-form blind MIMO channel estimation for OSTBCs: Resolving ambiguities in rotatable codes", *European signal processing conference (EUSIPCO'11)*, Barcelona, Spain, Aug. 29 - Sep. 2, 2011.
 - N. Sarmadi and M. Pesavento, "Closed-form blind channel estimation for orthogonally coded MIMO-OFDM systems: A simple strategy to resolve non-scalar ambiguities", *IEEE International workshop on signal processing advances in wireless communications (SPAWC'11)*, San Francisco, CA, USA, 26-29 June, 2011.
 - N. Sarmadi, M. Pesavento and A. B. Gershman, "Closed-form blind channel estimation for orthogonally coded MIMO-OFDM systems: An algorithm and uniqueness study", *International ITG workshop on smart antennas (WSA'11)*, Aachen, Germany, 24-25 Feb., 2011.
 - N. Sarmadi, A. B. Gershman and S. Shahbazpanahi, "Closed-form blind channel estimation in orthogonally coded MIMO-OFDM systems", *IEEE International conference on acoustic, speech and signal processing (ICASSP)*, Dallas, Texas, USA, 14-19 Mar., 2010.
 - N. Sarmadi, A. B. Gershman and S. Shahbazpanahi, "Blind channel estimation in MIMO-OFDM systems using semi-definite relaxation", *IEEE International conference on acoustic, speech and signal processing (ICASSP)*, Las Vegas, USA, Mar. 30 - Apr. 4, 2008.
 - N. Sarmadi and M. Teshnehlab, "Short-term weather forecasting using neuro-fuzzy approach", *20th IASTED International multi-conference on Modeling, Identification and Control (MIC)*, Innsbruck, Austria, 18-21 Feb. 2002.
 - N. Sarmadi and M. Teshnehlab, "Short-term weather forecasting using CMAC structure", *20th IASTED International multi-conference on applied informatics(AI)*, Innsbruck, Austria, 18-21 Feb., 2002.
 - N. Sarmadi, "Intelligent time series prediction using data fusion method", *First Iranian student conference on artificial intelligence*, Tehran, Iran, 6-10 Mar., 2002.
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Selected Academic Researches:

- 2001: "Intelligent adaptive control of mean arterial pressure and cardiac output for congestive heart failure patients", Technical report for a volunteer biomedical engineering project, K. N. Toosi university of technology.
- 2000: "Sensor fusion", A technical report on smart systems and instrumentation, intelligent control laboratory, K. N. Toosi university of technology.
- 2000: "Design of a fuzzy controller for torque and speed control of SR-motors in presence of load disturbance", intelligent control laboratory, K. N. Toosi university of technology.
- 1998: "Design of data acquisition system (DAS)", B.Sc. thesis, university of Tehran. Obtained grade A.

Academic Awards:

- 9.1996: Awarded for collaborating in international conference on intelligent and cognitive systems, Institute for studies in theoretical physics and mathematics (IPM) , Iran.
- 5.1995: Awarded for collaborating in 4th international conference on electrical engineering (ICEE), university of Tehran, Iran.

Teaching Experiences:

- 3.2007(/8/9/10)-9.2007(/8/9/10): Teacher assistant in advanced algorithms for smart antenna systems, Technical University of Darmstadt.
- 9.2006(/7/8/9)-3.2007(/8/9/10): Teacher assistant in MIMO communication and space-time coding, Technical University of Darmstadt.
- 2.2001-2.2002: Teacher assistant in fuzzy control systems, K. N. Toosi university of technology.
- 9.1999-9.2000: Teacher assistant in linear control systems, K. N. Toosi university of technology.

Professional Activities:

- M.Sc. Thesis advisor:

- 1- M. Waseem, " Joint channel estimation & blind symbol decoding in MIMO communications", TUD, Aug. 2006.
- 2- Q. Mu, " Channel estimation in wireless relay networks", TUD, Jan. 2009.
- 3- J. Xie, " In-car localization methods based on GSM/UMTS networks", TUD, May 2009.
- 4- J. Vinogradova," Subspace-based method for blind estimation of frequency-selective MIMO-STBC channels", TUD, Apr. 2011.

- B.Sc. Thesis advisor:

- 1- C. Girardey, " Closed form blind MIMO channel estimation for OSTBC's", TUD, Jul. 2007.
- 2- T. Lawin-Ore, " Implementation of transmit diversity using an ultra wide band MIMO demonstrator", TUD, Sept. 2007.
- 3- Q. Mu, " Blind channel estimation in MIMO-OFDM systems", TUD, Oct. 2007.
- 4- S. Schmidt, " Blind MIMO channel estimation using convex optimization", TUD, Feb. 2008.
- 5- B. Keuni, " Implementation of pilot-based channel estimation in SIMO systems

using ultra wide band acoustic demonstrator ", TUD, Apr. 2008.

6- P. Davarmanesh, " Blind symbol detection in broadband Space-Time block coded communication systems", TUD, Feb. 2009.

- **Journal Referee:** IEEE Transactions on Signal Processing, IEEE Transactions on Communications, IEEE Transactions on Vehicular Technology, IEEE Signal Processing Letters, EURASIP Signal Processing Journal, EURASIP Journal on Wireless Communications and Networking.
 - **1998-2001:** Referee in annual Iranian conference on student electrical engineering(ICSEE) for four consecutive years.
 - **1998-1999:** Student representative of K. N. Toosi university of technology in ICSEE and head of the Relation between industry and university committee in this conference.
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Industrial Work Experiences:

- **11.2003-7.2005:** SAZEH consultants Co. Ltd. Deputy head of field engineering and supervision, project quality manager and head of the instrumentation department at Khark island site.

Sazeh consultants is one of the most prestigious consulting companies in Iran, acting in various governmental-run projects such as oil industries. In Khark island, which is one of the gigantic operating oil fields of Iran, this company was in charge of field engineering and consulting for various projects like provision and maintenance of the oil exporting jetties, water treatment plant, airport construction and etc.

- **5.2002-11.2003:** CHAGALESH engineering Co. Ltd. Head of electrical and instrumentation unit at Khark island site.

In Khark oil field, Chagalesh was in charge of control systems and measurement devices of oil storage tanks and gas turbine power plant.

- **5.1998-9.1998 (Internship):** MATN power research center. Technical designer in control and instrumentation department.

I have worked on design of metering systems in different plants such as reservoirs and switching centers, implementation of distributed control systems for cement industries and petrochemical complexes.

- **5.1997-9.1997 (Internship):** MILAD hospital. A member of technical supervising team at electrical installation unit.

At the time of my presence, the hospital was in the final steps of its construction. I have worked mainly on fire alarm systems, sub station design review, nurse call systems, isolation transformers and paging systems.

- **11.1994-3.1996 (Student co-worker):** SAPTA Co. Ltd.

Sapta was among the three well-known companies in Iran which are active in management, planning and automation of high-voltage power plants and/or switching centers. During my presence in Sapta, I have worked on mimic panels, control schema with programmable logic control (PLC), remote technical units, supervisory control, data acquisition(SCADA) and outlining PID controllers.

Selected Industrial Reports:

- 1999: A tutorial on field bus control systems, Iranian Society of Instrument and Control Equipments(ISICE).
 - 1996: A survey on currently-used distributed control systems (DCS) in Iranian industry, carried out in SAPTA Co. Ltd.
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Certificates:

- 11.2007:Multiuser MIMO industry course (MASCOT), Nokia Research center, Finland.
- 10.2004:PLC programming for simatic S7 200-300, FESTO DIDACTIC Co. Ltd.
- 8.2004:Internal audit according to ISO 9001 edition 2000, DNV Co. Ltd.
- 11.2002:Total quality management (TQM), Khark petrochemical plant.
- 2.2002:Applied informatics, Innsbruck university, Austria.
- 9.2001:Neural modeling, Institute for studies in theoretical physics and mathematics (IPM).
- 9.1997:Pneumatics application, FESTO DIDACTIC Co. Ltd.
- 7.1997:Introduction to ISO 9000 standards, MATN power research center.
- 6.1997:Distributed control systems, MATN power research center.
- 4.1997:Actuator sensor interface systems, K. N. Toosi University of Technology.
- 8.1995:C programming language, ISIRAN Co. Ltd.