

## VITA

### Mihaela van der Schaar

**CURRENT POSITIONS** Man Professor, University of Oxford (Endowed Chair)  
Turing (Faculty) Fellow, Alan Turing Institute, London, UK

**CURRENT ADDRESS** Oxford-Man Institute, University of Oxford  
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Cell Phone: +44-7491892841

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**CURRENT INTERESTS** Machine Learning, Data Science and Decisions for Medicine (<http://medianetlab.ee.ucla.edu/MedAdvance>)

**EDUCATION** 2001 Eindhoven University of Technology, The Netherlands  
**Ph. D. in Electrical and Computer Engineering**  
Thesis: System and network constrained scalable video compression

1996 Eindhoven University of Technology, The Netherlands  
**BSc. and M.Sc. in Electrical and Computer Engineering**  
Thesis: Compression techniques for video and graphics data in TV-applications

1992 Computer Science, Polytechnic University, Romania  
Received one of the first 5 TEMPUS scholarships of the European Union for study and research abroad granted to non-communist Romania

<b>ACADEMIC POSITIONS</b>	10/2016 – Present	University of Oxford	Oxford, UK
	<b>Man Professor</b>	Mathematical, Physical and Life Sciences Division Department of Engineering Sciences	
	<b>Associate Member</b>	Department of Statistics	
	<b>Turing (Faculty) Fellow</b>	Alan Turing Institute	London, UK
	7/2005 – present	University of California	Los Angeles, CA
	<b>Chancellor's Professor (since 7/2011)</b>		
	<b>Professor, Electrical and Computer Engineering Department (7/2010 – Present)</b>		
	<b>Professor, Computer Science (by Courtesy)</b>		
	<b>Associate Professor, Electrical Engineering Department (7/2007-6/2010)</b>		
	<b>Assistant Professor, Electrical Engineering Department (7/2005- 6/2007)</b>		
	7/2003 – 6/2005	University of California	Davis, CA
	<b>Assistant Professor, Electrical and Computer Engineering Department</b>		
	1/2003 – 8/2003	Columbia University	New York, NY
	<b>Adjunct Assistant Professor, Electrical Engineering Department</b>		

<b>INDUSTRIAL POSITIONS</b>	<p>11/1998 – 6/2003 Philips Research Briarcliff Manor, NY  <b>Senior Member Research Staff</b>, Wireless Communication and Networking Department  <b>Project leader</b> at Philips Research USA:</p> <ul style="list-style-type: none"> <li>• Internet Video Project (2000 – 2002) – project and research leader of a team of 7 researchers</li> <li>• Adaptive Video (2002 – June 2003) – project and research leader of a team of 2 researchers</li> <li>• Quality-Of-Service for IP Wireless Networks (2002 – June 2003) – project and research leader of a team of 4 researchers</li> </ul> <p><b>Representative of Philips Research USA to ISO MPEG-standardization – 1999 - 2004</b></p> <p>4/1996 – 10/1998 Philips Research Eindhoven, the Netherlands  <b>Research Scientist</b>, Television Systems Department</p>
<b>RESEARCH IN PRODUCTS</b>	<ul style="list-style-type: none"> <li>• Forecast ICU: A risk score for clinical deterioration – currently under implementation in Ronald Reagan UCLA Medical Center</li> <li>• System and memory constrained compression algorithm – implemented in Philips DIVA5 MPEG-2 video decoding IC</li> <li>• Embedded compression algorithm for Philips USB PVC camera (Philips received design award)</li> </ul>
<b>PATENTS</b>	<p>33 Granted US Patents (see US patents database at <a href="http://www.uspto.gov/patft/index.html">http://www.uspto.gov/patft/index.html</a>) on Multimedia compression, communications, networking and systems</p>
<b>HONORS/ AWARDS</b>	<ul style="list-style-type: none"> <li>• Oon International Award and Lecture in Preventive Medicine 2018</li> <li>• Statutory Chair Professor at Oxford University</li> <li>• Royal Society Wolfson Research Merit Award 2016 (award declined to accept Oxford offer)</li> <li>• Chancellor’s Professor – UCLA 2011 (Endowed Position)</li> <li>• IEEE Fellow (elected 2009)</li> <li>• Distinguished Speaker for IEEE Communications Society – elected for 2011-2012</li> <li>• National Science Foundation (NSF) CAREER Award – awarded December 2004</li> <li>• Philips “Make a Difference” Award for Outstanding Research Contributions to Philips Research Program (November 2002) – given once annually to a single employee in Philips Research USA</li> <li>• IBM Faculty Award 2005, 2007, 2008</li> <li>• Exploratory Stream Analytics Innovation Award from IBM Research Watson - 2008</li> <li>• Okawa Foundation Award – 2006</li> <li>• ISO Award for Technical Contributions to the MPEG-4 Visual standard (MPEG-4 FGS Profile) (2003)</li> <li>• ISO Award for Technical Contributions to the MPEG-4 Visual standard (MPEG-4 Advanced Simple Profile) (2004)</li> <li>• ISO Award for Technical Contributions to the MPEG-21 Multimedia framework Part 12: Test-bed for MPEG-21 resource delivery (2005)</li> <li>• Elected Technical Committee on Multimedia Signal Processing, IEEE Signal Processing Society (2002)</li> <li>• Elected Technical Committee on IMDSP, IEEE Signal Processing Society (2006)</li> <li>• Advisor Multimedia Communication Systems Interest Group (MCSIG)</li> </ul>
<b>BEST PAPER AWARDS</b>	<ul style="list-style-type: none"> <li>• Darlington Award, IEEE Circuits and Systems Society Darlington Award, 2011</li> <li>• Gamenets (Game-Theory for Networks) Conference, 2011</li> <li>• IEEE Transactions on Circuits and Systems for Video Technology, 2006.</li> <li>• Most Cited Paper Award from EURASIP Journal Signal Processing: Image Communication between the years 2004-2006</li> <li>• Two papers in <i>Top 100 SPIE Downloads</i> on Video Compression: 5266-18, 5308-129</li> </ul>
<b>CENTERS</b>	<p>Founder and Director of UCLA Center for Engineering Economics, Learning, and Networks (2011-2016)</p>
<b>STEERING COMMITTEES (MEDICINE)</b>	<p>UK Eric Topol Review – Co-Chair Expert Panel Review on Artificial Intelligence for Medicine (2018)  UK Health Data Analytics Network (since 2017)  World Innovation Summit for Health (WISH) 2018  Scientific advisory committee for the Oak Ridge National Laboratory’s (ORNL) – On Healthcare Data Science (2018)</p>

## **EDITORSHIPS**

- **Editor-in-Chief IEEE Trans. On Multimedia (Jan. 2011 – Dec. 2013)**
- Senior Editorial Board Member of IEEE Journal on Emerging and Selected Topics in Circuits and Systems (JETCAS) (2014 –2016)
- Senior Editorial Board Member of IEEE Journal on Selected Topics on Signal Processing (JSTSP) (2011-2012)
- Associate Editor for the Signal Processing Magazine – E-letter on Standards and Industry-related news (2007-2008)
- Associate Editor for IEEE Transactions on Multimedia (2002-2005)
- Associate Editor for IEEE Transactions on Circuits and Systems for Video Technology (since 2004)
- Associate Editor for IEEE Signal Processing Letters (2005-2008)
- Associate Editor for SPIE Journal of Optical Engineering (October 2003-September 2004)
- Associate Editor for E-Newsletter of Signal Processing Society
- Lead Editor, Special issue on “Machine Learning and Signal Processing for Education”, IEEE Journal on Selected Topics on Signal Processing (JSTSP) , 2017
- Guest Editor, Special issue on “Energy Aware Communications in Wireless Sensor Networks”, International Journal on Distributed Sensor Networks”, Nov. 2014
- Guest Editor, EURASIP Journal on Applied Signal Processing: Special issue on multimedia over IP and wireless networks, 2<sup>nd</sup> Quarter 2004.
- Guest Editor, Special issue on Cross-layer Optimized Wireless Multimedia Communications, Journal of Advances in Multimedia, 2007.
- Member of the Editorial Board of "Foundation and Trends in Signal Processing" published by Now Publishers ([www.nowpublishers.com](http://www.nowpublishers.com)) (2008-now)

## **CHAIRING INTERNATIONAL STANDARDS**

- Chair of Ad Hoc Group on “MPEG-21 scalable video coding” in MPEG-standardization (2002–2005).
- Co-Chair of Ad Hoc Group on “Multimedia streaming test-bed” in MPEG-standardization (2002-2005).
- Chair of Ad Hoc Group on “Advanced Fine-Granularity-Scalability” in MPEG-standardization (2002).
- Co-chair of Ad Hoc Group on “Interframe wavelet coding” in MPEG-standardization (2002).
- Co-editor of MPEG-4 FGS standard 14496-2/AMD4.
- Editor of MPEG-4 Video Verification Model for FGS

## **TUTORIALS AT MAJOR IEEE CONFERENCES AND UNIVERSITIES**

1. “Scalable Video Coding – Principles and Standards”, at IEEE International Conference on Image Processing (ICIP) 2001, October 2001.
2. “Scalable Video Coding – Wavelet & FGS”, at Philips Center for Technical Training, May 2002.
3. “MPEG-4 Fine Granularity Scalability and Advanced Simple Profile” at MPEG-4 Industry Forum, June 2002.
4. “Video transmission over Wireless LANs – Challenges, Principles and Standards” for IEEE International Conference on Consumer Electronics (ICCE) 2003, June 2003.
5. “Motion Compensated Wavelet Coding”, at IEEE International Conference on Image Processing (ICIP) 2003, September 2003.
6. “Multimedia Transmission over WLANs using Cross Layer Design - Challenges, Principles and Standards”, at IEEE Globecom 2003, December 2003.
7. “Cross-layer Optimization for Wireless Multimedia Transmission Principles and Standards”, 7<sup>th</sup> International Conference on Management of Multimedia Networks and Services (MMNS) 2004.
8. “Cross-Layer Design for Multimedia Transmission”, at IEEE International Conference on Image Processing (ICIP) 2004.
9. “Cross Layered Design using Spectrum Agile Radios”, at IEEE Globecom 2004.
10. “Cross Layer Optimized Wireless Multimedia”, at IEEE ICASSP 2005.
11. “Design and Optimization of Adaptive Multimedia Systems - Challenges, Approaches and Opportunities”, at IEEE ICME 2005.
12. “Fundamentals of Multimedia Transmission over Emerging Spectrum Agile Wireless Networks”, at IEEE ICIP 2005 ([http://www.icip05.org/tutorial\\_full.htm#TP3](http://www.icip05.org/tutorial_full.htm#TP3)).
13. “System Design for Multimedia Applications – Challenges, Design methods and recent developments”, at DAC 2007.
14. “Game Theoretic Approaches for Cognitive Radios”, at ICIP 2007.
15. “Networking Games” at UPC, Barcelona, Spain (1-week).
16. “Games, Distributed Decision Making and Learning in Wireless Multimedia Networks” at IEEE Globecom, December 2008.
17. “Network Economics and Game Theory”, September 2009, EPFL, Switzerland (1-week)

18. “Systematic Framework for Cross-Layer Optimization”, IEEE Globecom 2009.
19. “Large-Scale and Distributed Stream Mining Systems”, ACM Multimedia 2010.
20. “Network Economics and Game Theory”, 2012, ENST, France
21. “Games and Design in Signal Processing”, ICASSP 2013.
22. “Games and Design in Signal Processing”, (2013) at University La Sapienza, Rome, Italy.
23. “Online Reinforcement Learning and Markov Decision Processes” (2013) at University La Sapienza, Rome, Italy and Tor Vergatta University, Rome, Italy.
24. “Quality of Service in Network Communications” (2013) at Dublin City University, Ireland.
25. “Online Learning in Multi-agent Environments - Applications to Communication and Networking”, Globecom 2013, Atlanta 2013
26. “Machine Learning and Data-driven Decision Making”, 2016 IEEE Signal Processing Society Summer School on Signal Processing and Machine Learning for Big Data, Pittsburgh, PA, USA, May 17 - 19, 2016.
27. “Reputational Learning and Network Dynamics”, Network Economics Summer School, Oxford Summer School in Economics Networks, June 26-30, 2017

**KEYNOTE/  
PLENARY/  
INVITED  
TALKS**

1. Artificial Intelligence @ Oxford 2018 (AI for medicine)
2. Turing AI for Social Good Symposium – Royal Society 2018 (<https://www.youtube.com/watch?v=d1uEATa0qIo>)
3. Isaac Newton Institute for Mathematical Sciences – 2018 “Causal Inference for Treatment Effects: A Theory and Associated Learning Algorithms” (<https://www.newton.ac.uk/seminar/20180315110012002>)
4. Turing Lecture – Data Science in Medicine, Alan Turing Institute 2017 (<https://www.youtube.com/watch?v=RfK3D5dJV2Q>)
5. Big Data in Medicine: Tools, Transformation and Translation Workshop at Cambridge Univ., 2017
6. Workshop on Recent & Future Trends in Biostatistics 2017
7. Wellcome Big Data in Biology and Health 2017
8. 2015 International Conference on Computing, Networking and Communications (ICNC 2015)
9. Distinguished Seminar Speaker at Academia Sinica Taiwan 2014
10. Keynote speaker at IEEE Consumer Electronics (ICCE) Taiwan 2014
11. Keynote speaker at IEEE BigData 2014 Taipei Satellite Session 2014
12. Keynote speaker at the Quality of Experience for Multimedia Communications Workshop, Globecom 2013
13. Keynote speaker at the Annual Meeting of the Association Group National Telecommunications and Information Technologies of Italy, 2013
14. Plenary talk at 2013 International Conference on Computing, Networking and Communications (ICNC 2013)
15. Eliahu I and Joyce Jury Seminar at the ECE Department of University of Miami, 2012
16. Keynote speaker at 2012 European Signal Processing Conference (EUSIPCO-2012)
17. Keynote speaker at the IEEE International Symposium on Multimedia, Dana Point, California, USA, December 2011.
18. Keynote speaker at the IEEE International Conference on Semantic Computing, Stanford University, September 2011.
19. Keynote speaker at the 6th International Conference on Image and Graphics (ICIG), 2011, Hefei, Anhui, China, August 2011
20. Keynote speaker at Wireless Advanced Conference – June 2010, King’s College, London

**IEEE COMSOC  
DISTINGUISHED  
LECTURER  
SEMINARS**

- Paris-ENST (Ecole Nationale Supérieure des Télécommunications); Supelec, Paris; Queen Mary University, London; Vienna University of Technology; Columbia University; Boston University; New Jersey Institute of Technology (NJIT); NYU-Polytechnic University New York; Shanghai Jiaotong University; University of Science and Technology (USTC), Hefei, Anhui, China, etc.

**DISTINGUISHED  
SEMINARS AND  
INVITED TALKS**

- Medicine:**  
 41st European Cystic Fibrosis Conference 2018  
 Bayesian Biostatistics and Pharma 2018  
 UCLA Distinguished Cardiovascular Disease Seminar Series 2018  
 Science Question Time - Public Event – March 2018  
 Machine Learning for Health (ML4H) – NIPS Workshop 2017

**Companies:** Microsoft Research, Intel Corporation, Thomson Research, Xilinx Research, Cisco, Sanyo, HP Research Labs, Skype, HRL Malibu etc.

**Universities:** MIT, Harvard, Univ. of Michigan, Princeton University, UC Berkeley, Stanford University, New York University, UC Santa Barbara, UC Irvine, UC Riverside, University of Southern California, Columbia University, University of Rochester, Drexel University, University of Wisconsin-Madison, EPFL (Switzerland), Eindhoven University of Technology (the Netherlands), Vrije Universiteit Brussels (Belgium), Univ. La Sapienza (Italy), Imperial College London (UK), University College London (UK), Cambridge University (UK), etc.

**CONFERENCES/  
WORKSHOP  
ORGANIZATION**

**General Conference Chair/Conference Chair/Area Chair**

- “Multimedia streaming” session, Packet Video Conference, April 2002.
- “Signal Processing for Media Integration” session, IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP) 2003.
- Chair of “Multimedia Communications and Networking” track at IEEE Conference on Multimedia and Expo (ICME) 2003.
- Area Chair at IEEE Conference on Multimedia and Expo (ICME) 2004.
- General Chair of Picture Coding Symposium (PCS) 2004, oldest conference on image/video compression.
- General co-chair BaseNets 2005, Boston, 2005.
- Technical General Chair, Packet Video, Switzerland, 2007.
- Chair of the Technical Program Committee, Mobimedia 2007
- Program Chair, International Workshop on Image Analysis for Multimedia Interactive Services (WIAMIS), London 2009
- Special Sessions Chair - IEEE International Conference on Acoustics Speech and Signal Processing (ICASSP) 2011
- Program Co-Chair International Symposium on Multimedia 2012
- Tutorial Co-Chair IEEE International Conference on Image Processing (ICIP) 2014
- Co-organizer - Machine Learning for Education Workshop at International Conference on Machine Learning (ICML) 2015 ([http://dsp.rice.edu/ML4Ed\\_ICML2015](http://dsp.rice.edu/ML4Ed_ICML2015))
- Co-organizer - Machine Learning for Education Workshop at International Conference on Machine Learning (ICML) 2016

**Organization of Special Sessions**

- “Internet video streaming” session, ISAS Conference, July 2001.
- “Motion-compensated wavelet video coding” session, Visual Communication and Image Processing (VCIP), July 2003.
- “Networked video” session, IEEE Conference on Multimedia and Expo (ICME), July 2003.
- “Multimedia networking and architectures” session, SPIE Applications of Digital Image Processing 2004 and 2005.
- “Cross-layer design for multimedia networking” session, IEEE International Workshop on Multimedia Signal Processing (MMSp) 2004.
- “Enterprise Multimedia Streaming” session, IEEE ICME Conference 2005.

**Workshops**

- EE Workshop on Wireless Multimedia Systems at UCLA, May 2006.
- EE Workshop on Power-Constrained Multimedia Systems – Theory, Algorithms, Platforms, Middleware at UCLA, February 2007.
- Southern California Workshop on Distributed Multimedia Systems at UCLA (Nov. 2009)
- Co-founder and co-organizer since 2009 the Network Economics and Game Theory Symposium – see <http://medianetlab.ee.ucla.edu/SoclaNEGT/index.html>
- Turing/UK-HDAN workshop on Data Science for Medicine, Nov. 2017

**Steering Program Committee**

- Packet Video Workshop (2006 – now).
- Picture Coding Symposium (2004 – now)

**Technical Program Committee (not complete)**

- IEEE Information Theory Symposium in the Benelux 1998, the Netherlands.
- World Multiconference on Systemics, Cybernetics and Informatics, ISAS-SCI, 2001-2004.

- IEEE Conference on Multimedia and Expo (ICME) 2003, 2004, 2005, 2006.
- IEEE Conference on Image Processing (ICIP) 2003-2009.
- IEEE Conference on Acoustic, Speech and Signal Processing (ICASSP) 2003-2007.
- SPIE Visual Communications and Image Processing (VCIP) 2003, 2004, 2005.
- SPIE Applications of Digital Image Processing XXVII 2004.
- IEEE Intl. Workshop on Multimedia Signal Processing, 2004, 2007, 2009.
- Packet Video Workshop, 2004, 2006, 2007, 2010.
- International Conference on Management of Multimedia Networks and Services, 2004.
- Workshop on Broadband Advanced Sensor Networks (BASENET), 2004.
- SPIE Image and Video Communications and Processing, 2005.
- IEEE International Conference on Communication (ICC)- Multimedia Communications and Home Networking Symposium, 2005, 2006.
- IEEE Workshop on Embedded Systems for Real-Time Multimedia Systems – 2007, 2008, 2009
- Cognitive Image Processing (CIP) Workshop – 2008, 2009
- SPIE Applications of Digital Image Processing XXXI (OP317)
- The Third International Conference on Systems and Networks Communications ICSNC 2008
- Fifth International Conference on Visual Information Engineering VIE'08
- First International Workshop on Mining Multimedia Streams in Large-scale Distributed Environments 2008
- IEEE International Conference on Management of Multimedia, Mobile Networks, Services 2008.
- IEEE CCNC 2008 (<http://www.ieee-ccnc.org/>)
- INFOCOM 2009 MoViD Workshop.
- ACM Multimedia 2010.
- Gamenets 2011 and 2012.
- Gamecomm 2011
- IEEE Dyspan 2011
- IEEE ICC Workshop 2012
- PCS 2013
- IEEE Infocom Workshop on Smart Data Pricing 2013 - 2015

**ADVISED  
PH.D./MSC./POST  
-DOC STUDENTS**

**PhD students - Engineering**

- Dr. Jie Xu – PhD 2015 (UCLA) – Assistant Professor at University of Miami
- Dr. Yuanzhang Xiao – PhD 2014 (UCLA) – Post-doc at Northwestern University
- Dr. Yu Zhang – PhD 2013 (UCLA) – Research scientist at Google
- Dr. Shaolei Ren – PhD 2012 (UCLA) – Assistant Professor at UC Riverside
- Dr. Nicholas Mastronarde – PhD 2011 (UCLA) – Associate Professor at Univ. of Buffalo
- Dr. Yi Su – PhD 2010 (UCLA) – Research scientist at Qualcomm
- Dr. Fangwen Fu – PhD 2010 (UCLA) – Research scientist at Intel
- Dr. Peter Shiang - PhD 2009 (UCLA) – Senior Engineer at Apple
- Dr. Brian Foo – PhD 2008 (UCLA) – Senior Software Engineer at Google
- Dr. Hyunggon Park - PhD 2008 (UCLA) – Associate Professor in the Department of Electronics Engineering at the Ewha Womans University, Seoul, South Korea
- Dr. Yiannis Andreopoulos (Vrije Universiteit Brussels, Belgium, Graduated May 2005) – PhD Thesis, co-adviser, and post-doc adviser at UCLA - Now Reader at University College London (UCL), London, United Kingdom.

**PhD students - Economics**

- Dr. Simpson Zhang – co-adviser – PhD 2016 (UCLA) - Office of Financial Research of the U.S. Treasury Department
- Dr. Yangbo Song – co-adviser - PhD 2015 (UCLA) – Chinese University of Hong Kong
- Dr. Jaeok Park – co-adviser - PhD 2011 (UCLA) – Assistant Professor in Economics Department at Yonsei, Korea

**Post-doctoral students**

- Dr. Cem Tekin – Post-doc (2013 – 2014) – Assistant Professor Bilkent University, Turkey
- Dr. Luca Canzian - Post-doc and visiting student (2013 – 2014) – Qascom, Italy

## PROMOTION OF WOMEN IN ENGINEERING

Participated as a panelist in the IEEE ICASSP 2005 panel on “Women in Signal Processing” ([http://www.icassp2005.com/SS\\_P1.asp](http://www.icassp2005.com/SS_P1.asp))

Invited speaker “On-Ramps into Academia” workshop - October 19 and 20, 2009 at University of Washington. (funded by NSF ADVANCE) - [http://www.engr.washington.edu/onramp/Upcoming\\_Workshop.htm](http://www.engr.washington.edu/onramp/Upcoming_Workshop.htm)

Mentor at Women in Machine Learning at International Conference on Machine Learning (ICML) 2015

## BOOKS

M. van der Schaar, P. Chou (Ed.), *Multimedia over IP and Wireless Networks*, Academic Press, March 2007

M. van der Schaar, T. Stockhammer, and D. S. Turaga, *MPEG-4 Beyond Conventional Video Coding: Object Coding, Resilience, and Scalability*, Morgan & Claypool Publishers, March 2006.

## JOURNAL AND CONFERENCE PAPERS - ACCEPTED & PUBLISHED

### Machine Learning, Data Science and Data-driven Decision Making: Medicine

1. E. Cenko, M. van der Schaar, J. Yoon, S. Kedev, G. Stankovic, Z. Vasiljevic, G. Krljanac, Oliver Kalpak, B. Ricci, L. Badimon, R. Bugiardini, “Sex Differences in Outcomes after STEMI: Effect Modification by Treatment Strategy and Age”, *JAMA Internal Medicine*, Accepted, 2018
2. J. Yoon, W. Zame, A. Banerjee, M. Cadeiras, M. van der Schaar, “Personalized Survival Predictions via Trees of Predictors: An Application to Cardiac Transplantation”, *PLOS One*, 2018.
3. A. Bellot, M. van der Schaar, "Tree-based Bayesian Mixture Model for Competing Risks," *AISTATS*, 2018.
4. J. Yoon, J. Jordan, M. van der Schaar, "GANITE: Estimation of Individualized Treatment Effects using Generative Adversarial Nets," *ICLR*, 2018. [[Link](#)]
5. J. Yoon, W. R. Zame, M. van der Schaar, "Deep Sensing: Active Sensing using Multi-directional Recurrent Neural Networks," *ICLR*, 2018. [[Link](#)]
6. C. Lee, W. R. Zame, J. Yoon, M. van der Schaar, "DeepHit: A Deep Learning Approach to Survival Analysis with Competing Risks," *AAAI*, 2018. [[Link](#)]
7. O. Atan, J. Jordan, M. van der Schaar, "Deep-Treat: Learning Optimal Personalized Treatments from Observational Data using Neural Networks," *AAAI*, 2018. [[Link](#)]
8. A. M. Alaa and M. van der Schaar, "A Hidden Absorbing Semi-Markov Model for Informatively Censored Temporal Data: Learning and Inference," *Journal of Machine Learning Research (JMLR)*, 2017. [[Link](#)]
9. A. M. Alaa, M. van der Schaar, "Deep Multi-task Gaussian Processes for Survival Analysis with Competing Risks," *NIPS*, 2017. [[Link](#)]
10. A. M. Alaa, M. van der Schaar, "Bayesian Inference of Individualized Treatment Effects using Multi-task Gaussian Processes," *NIPS*, 2017.
11. K. Ahuja, W. R. Zame, M. van der Schaar, "DPSCREEN: Dynamic Personalized Screening," *NIPS*, 2017. [[Link](#)]
12. A. M. Alaa, J. Yoon, S. Hu, and M. van der Schaar, "Personalized Risk Scoring for Critical Care Prognosis using Mixtures of Gaussian Processes," *IEEE Transactions on Biomedical Engineering.*, 2017
13. M. K. Ross, J. Yoon, M. van der Schaar, "Discovering Pediatric Asthma Phenotypes Based on Response to Controller Medication Using Machine Learning," *Annals of the American Thoracic Society*, 2017.
14. B. Ricci, M. van der Schaar, J. Yoon, E. Cenko, Z. Vasiljevic, M. Dorobantu, M. Zdravkovic, S. Kedev, O. Kalpak, D. Milicic, O. Manfrini, L. Badimon, R. Bugiardini, "Machine Learning Techniques for Risk Stratification of Non-ST-Elevation Acute Coronary Syndrome: The Role of Diabetes and Age," *American Heart Association Scientific Session*, 2017 - *Circulation*, 2017; 136:A15892. [[Link](#)]
15. A. M. Alaa, S. Hu, and M. van der Schaar, "Learning from Clinical Judgments: Semi-Markov-Modulated Marked Hawkes Processes for Risk Prognosis," *ICML*, 2017. [[Link](#)]
16. J. Yoon, M. van der Schaar, "E-RNN: Entangled Recurrent Neural Networks for Causal Prediction," *ICML 2017 - Workshop on Principled Approaches to Deep Learning.*, 2017. [[Link](#)]
17. A. M. Alaa, M. Weisz, M. van der Schaar, "Deep Counterfactual Networks with Propensity-Dropout," *ICML 2017 - Workshop on Principled Approaches to Deep Learning.*, 2017. [[Link](#)]
18. J. Yoon, W. R. Zame, M. van der Schaar, "Multi-directional Recurrent Neural Networks: A Novel Method for Estimating Missing Data," *ICML 2017 - Time Series Workshop.*, 2017. [[Link](#)]
19. A. M. Alaa, J. Yoon, S. Hu, and M. van der Schaar, "Individualized Risk Prognosis for Critical Care Patients: A Multi-task Gaussian Process Model," *Big Data in Medicine: Tools, Transformation and Translation*, Cambridge, 2017. [[Link](#)]

20. A. Banerjee, J. Yoon, W. R. Zame, M. Cadeiras, A. M. Alaa, M. van der Schaar, "Personalized Risk Prediction using Predictive Pursuit Machine Learning: A Pilot Study in Cardiac Transplantation," *European Society of Cardiology Congress*, 2017.- Selected as Best Posters in Advanced Heart Failure.
21. J. Yoon, W. R. Zame, A. Banerjee, M. Cadeiras, A. M. Alaa, M. van der Schaar, "Personalized Risk Prediction using Predictive Pursuit Machine Learning: A Pilot Study in Cardiac Transplantation," *Evidence Live Conference*, 2017. [[Link](#)]
22. M. K. Ross, J. Yoon, K. Moon, M. van der Schaar, "A Personalized Approach to Asthma Control Over Time: Discovering Phenotypes Using Machine Learning," *American Thoracic Society (ATS) International Conference*, 2017. [[Link](#)]
23. A. M. Alaa, J. Yoon, Scott Hu, M. van der Schaar, "A Semi-Markov Switching Linear Gaussian Model for Censored Physiological Data," *NIPS - Workshop on Machine Learning for Health*, 2016. [[Link](#)]
24. J. Yoon, A. M. Alaa, M. Cadeiras, M. van der Schaar, "Personalized Donor-Recipient Matching for Organ Transplantation," *AAAI*, 2017. [[Link](#)]
25. C. Tekin, J. Yoon, and M. van der Schaar, "Adaptive Ensemble Learning with Confidence Bounds," *IEEE Trans. Signal Process.*, 2016. [[Link](#)]
26. A. M. Alaa and M. van der Schaar, "Balancing Suspense and Surprise: Timely Decision Making with Endogenous Information Acquisition," *NIPS, 2016*. [[Link](#)]
27. W. Hoiles and M. van der Schaar, "A Non-parametric Learning Method for Confidently Estimating Patient's Clinical State and Dynamics," *NIPS, 2016*. [[Link](#)]
28. A. Alaa, K. H. Moon, W. Hsu and M. van der Schaar, "ConfidentCare: A Clinical Decision Support System for Personalized Breast Cancer Screening," accepted and to appear in *IEEE Transactions on Multimedia - Special Issue on Multimedia-based Healthcare*, 2016. [[Link](#)]
29. A. M. Alaa, J. Yoon, S. Hu, M. van der Schaar, "Personalized Risk Scoring for Critical Care Patients using Mixtures of Gaussian Process Experts," *ICML 2016 - Workshop on Computational Frameworks for Personalization.*, 2016. [[Link](#)]
30. J. Yoon, A. M. Alaa, S. Hu, M. van der Schaar, "ForecastICU: A Prognostic Decision Support System for Timely Prediction of Intensive Care Unit Admission," *ICML 2016*. [[Link](#)]
31. E. Soltanmohammadi, M. Naraghi-Pour, and M. van der Schaar, "Context-based Unsupervised Ensemble Learning and Feature Ranking," *Machine Learning*, pp. 1-27, June 2016. [[Link](#)]
32. C. Tekin, J. Yoon, M. van der Schaar, "Adaptive ensemble learning with confidence bounds for personalized diagnosis," *AAAI Workshop on Expanding the Boundaries of Health Informatics using AI (HIAI'16): Making Proactive, Personalized, and Participatory Medicine A Reality*, 2016. [[Link](#)]
33. J. Yoon, C. Davtyan, M. van der Schaar, "Discovery and Clinical Decision Support for Personalized Healthcare," *IEEE J. Biomedical and Health Informatics*, 2016. [[Link](#)]
34. L. Song, W. Hsu, J. Xu and M. van der Schaar, "Using contextual learning to improve diagnostic accuracy: application in breast cancer screening," *IEEE J. Biomedical and Health Informatics*, 2015. [[Link](#)]
35. C. Tekin, O. Atan and M. van der Schaar, "Discover the Expert: Context-Adaptive Expert Selection for Medical Diagnosis," *IEEE Transactions on Emerging Topics in Computing*, vol. 3, no. 2, pp. 220 - 234, 2015. [[Link](#)]
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