

Faris B. Mismar, Ph.D., MBA

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Education

The University of Texas at Austin	Electrical and Computer Engineering	Ph.D.	Fall 2019
The University of Texas at Dallas	Business Administration	MBA	Summer 2014
The University of Texas at Dallas	Electrical Engineering	M.S.	Fall 2011
University of Jordan	Computer Engineering	B.Sc.	Spring 2004

Academic Positions

The University of Texas at Dallas, Adjunct Associate Professor of Electrical and Computer Engineering. Academic year 2023-24.

The University of Texas at Dallas, Adjunct Assistant Professor of Electrical and Computer Engineering. Academic years 2021-22 and 2022-23.

Honors and Awards

2023, Nokia Open Award for Business Excellence.

2023, Nokia Bell Labs Distinguished Member of Technical Staff (awarded to 0.3% of global R&D staff annually).

2022, Invited paper to IEEE 95th Vehicular Technology Conference.

2021, Nokia Fearless Leadership Award.

2020, Nokia STAR Award (also in 2021).

2017, Elevated to IEEE Senior Member.

2016, Marcus Wallenberg Foundation Scholarship for Scientific Research and Education (Ph.D. full scholarship).

2015, Ericsson recognition for my efforts in the Ericsson v Apple global patent litigation.

2014, UT Dallas Dean's Excellence Scholarship for Continuing Graduate Students Award.

2013, Ericsson Key Contributor Award (for contributions to heterogeneous networks solutions).

2012, UT Dallas School of Management Dean's Excellence Scholarship Award.

2011, Ericsson Senior Solutions Architect certification (for contributions to 3G and 4G network design and optimization).

2009, Ericsson recognition for innovation in building a 3G and HSPA+ engineering capacity tool.

2006, Motorola BRAVO! Award (also in 2008).

2004, Jordanian Engineers Association Best Senior Project Award.

2004, The University of Jordan Board of Trustees Award for Academic Excellence.

Professional Positions

Nokia Bell Labs, Senior Principal Consultant, Wireless and Data Science, Jan. 2022 – Present.

Nokia, VP and Head of Data Science and Analytics, Mobile Networks, Apr. 2020 – Jan. 2022.

Samsung Electronics America, Director Radio Performance Assurance, Apr. 2019 – Apr. 2020.

Reliance Jio USA, Director Product and Technology Development, Feb. 2018 – Apr. 2019.

Ericsson, Senior Manager, Radio Access and Machine Learning, Apr. 2015 – Feb. 2018.

Ericsson, Senior Manager, Radio Access Networks, Apr. 2013 – Apr. 2015.

Ericsson, Senior Solutions Architect, Radio Access Networks, Nov. 2011 – Apr. 2013.

Ericsson, Experienced Radio Services Engineer, Apr. 2009 – Nov. 2011.

AT&T, Radio Services Engineer, Oct. 2008 – Apr. 2009.

Motorola, Radio Access Networks Professional Services Manager, Apr. 2007 – Oct. 2008.

Motorola, Services Engineer Radio Access Networks, Dec. 2005 – Apr. 2007.

Motorola, Services Engineer Core Networks, Dec. 2004 – Dec. 2005.

XPress Telecommunications, Applications Engineer, Jun. 2004 – Dec. 2004.

Publications

- Details and citation information can be found at:
https://scholar.google.com/citations?user=ztRse_MAAAAJ&hl=en

Papers – Submitted or Under Review

- [A1] F. B. **Mismar** and A. O. Kaya, “Compression of the Channel State Information with Deep Learning,” submitted to *IEEE Networking Letters*, Jul. 2024.

Journal Articles – Appeared

- [J1] F. B. **Mismar**, A. Gundogan, A. O. Kaya, and O. Chistyakov, “Deep Learning for Multi-User Proactive Beam Handoff: A 6G Application,” *IEEE Access*, vol. 11, pp. 46271-46282, May 2023.
- [J2] F. B. **Mismar** and J. Hoydis, “Unsupervised Learning in Next-Generation Networks: Real-Time Performance Self-Diagnosis,” in *IEEE Communications Letters*, vol. 25, no. 10, pp. 3330-3334, Oct. 2021.
- [J3] F. B. **Mismar**, A. AlAmmouri, A. Alkhateeb, B. L. Evans, and J. G. Andrews, “Deep Learning Predictive Band Switching in Wireless Networks,” in *IEEE Trans. on Wirel. Commun.*, vol. 20, no. 1, pp. 96-109, Jan. 2021.
- [J4] F. B. **Mismar**, B. L. Evans, and A. Alkhateeb, “Deep Reinforcement Learning for 5G Networks: Joint Beamforming, Power Control, and Interference Coordination,” in *IEEE Trans. on Commun.*, vol. 68, no. 3, pp. 1581-1592, Mar. 2020.
- [J5] F. B. **Mismar**, J. Choi, and B. L. Evans, “A Framework for Automated Cellular Network Tuning with Reinforcement Learning,” in *IEEE Transactions on Communications*, vol. 67, no. 10, pp. 7152-7167, Oct. 2019.
- [J6] F. B. **Mismar** and B. L. Evans, “Deep Learning in Downlink Coordinated Multipoint in New Radio Heterogeneous Networks,” in *IEEE Wireless Communications Letters*, vol. 8, no. 4, pp. 1040-1043, Aug. 2019.

Conferences

- [C1] F. B. **Mismar** and A. O. Kaya, “Uncoordinated Interference Avoidance Between Terrestrial and Satellite Communications,” *IEEE International Conference on Communications*, to appear, Apr. 2024.
- [C2] F. B. **Mismar**, “Intermodulation Interference Detection in 6G Networks: A Machine Learning Approach,” *Proc. IEEE Vehicular Technology Conference Workshops (Invited Paper)*, Helsinki, Finland, Aug. 2022, pp. 1-6.
- [C3] A. Taha, Y. Zhang, F. B. **Mismar**, and A. Alkhateeb “Deep Reinforcement Learning for Intelligent Reflecting Surfaces: Towards Standalone Operation,” *Proc. IEEE International Workshop on Signal Processing Advances in Wireless Communications*, Atlanta, GA, USA, May 2020, pp. 1-5.
- [C4] F. B. **Mismar** and B. L. Evans, “Deep Q-Learning for Self-Organizing Networks Fault Management and Radio Performance Improvement,” *Proc. IEEE Asilomar*, Pacific Grove, CA, USA, Oct. 2018, pp. 1457-1461.
- [C5] F. B. **Mismar** and B. L. Evans, “Q-Learning Algorithm for VoLTE Closed-Loop Power Control in Indoor Small Cells,” *Proc. IEEE Asilomar*, Pacific Grove, CA, USA, Oct. 2018, pp. 1485-1489.
- [C6] F. B. **Mismar** and B. L. Evans, “Partially Blind Handovers for mmWave New Radio Aided by Sub-6 GHz LTE Signaling,” *Proc. IEEE Intl. Conf. on Commun. Workshops*, Kansas City, MO, USA, May 2018, pp. 1-5.
- [C7] I. da Silva, Y. Wang, F. B. **Mismar**, and W. Su, “Event-Based Performance Monitoring for Inter-System Cell Reselection: A SON Enabler,” *Proc. Intl. Symposium on Wirel. Commun. Systems*, Paris, France, Oct. 2012, pp. 6-10.

Patents

- [P1] F. B. **Mismar** and A. O. Kaya, “METHOD FOR PRB BLANKING WITH DOPPLER CORRECTION,” U.S. Patent pending, submitted April 2023.
- [P2] F. B. **Mismar** and S. Nammi, “METHODS FOR ADAPTING A REPORTING PERIOD FOR A USER EQUIPMENT,” U.S. Patent: 9,883,528, issued September 2016.
- [P3] S. Nammi and F. B. **Mismar**, “A METHOD TO TRANSMIT SIGNALING RADIO BEARER MESSAGES IN MULTI ANTENNA WIRELESS SYSTEMS,” U.S. Patent: US 9,762,456, issued September 2016.

White Papers and Corporate Blogs

- [W1] F. B. **Mismar**, Claudio Saes Jr, and Narayan Raman, “5G Advanced and Wi-Fi 7: Coexistence Continues,” Sep. 2022.
- [W2] F. B. **Mismar** and others, “Generative AI implications for telco operations”, April 2024. [Online].

Other Major Publications

- [S1] F. B. **Mismar**, “A Quick Primer on Machine Learning in Wireless Communications,” arXiv:2312.17713, Dec. 2023 (with complete Python code).
- [S2] F. B. **Mismar**, “Improving Next-Generation Wireless Network Performance and Reliability with Deep Learning,” Ph.D. Dissertation, Dept. of Electrical and Computer Engineering, The University of Texas at Austin, Dec. 2019.

Professional Society Services

2024, Member of the technical program committee of the IEEE Wireless Communications and Networking Conference. Reviewer IEEE Wireless Communications Letters.

2023, Reviewer IEEE Signal Processing Letters, IEEE Wireless Communications Letters.

2022, Reviewer IEEE Communications Magazine, IEEE Network Magazine, IEEE Transactions on Wireless Communications, IEEE International Conference on Communications, IEEE Vehicular Technology Society (VTC2022-Spring).

2021, Reviewer IEEE Transactions on Wireless Communications, IEEE Communications Letters, and Globecom.

2020, Reviewer IEEE Transactions on Vehicular Technology, IEEE Transactions on Wireless Communications, IEEE Wireless Communications Letters (**exemplary reviewer**), IEEE Transactions on Communications, IEEE Signal Processing Letters, IEEE International Conference on Communications.

2019, Reviewer IEEE Wireless Communications Letters (**editor recognition**), IEEE Communications Letters, IEEE Transactions on Communications, IEEE Transactions on Cognitive Communications and Networking.

2018, Reviewer IEEE Transactions on Wireless Communications, IEEE International Conference on Communications, IEEE Communications Magazine, IEEE Globecom, IEEE Vehicular Technology Society (VTC2018-Spring).

Invited Talks and Presentations

Jul. 27, 2023, “AIOps, Digital Transformation, and Autonomous Networks” an invited presentation to New Zealand Spark executives at Bell Labs, Murray Hill, NJ, USA.

Jun. 22, 2023, “AI and Machine Learning: Enablers of Digital Transformation,” an invited online presentation to du UAE executives, Espoo, Finland.

Nov. 9, 2022, “Digital Enablement of Mining Sector in KSA,” a workshop and presentation on digital transformation to the Ministry of Communications and Information Technology, Riyadh, Saudi Arabia.

Aug. 28, 2022, “Talk on Data Mining: Unsupervised Learning and Data Mining: Theory and Applications,” an invited online presentation to German Jordanian University, Madaba, Jordan.

May 9, 2022, “Talk on Data Science: Unsupervised Learning for Root Cause Analysis,” an invited online presentation to University of Jordan, Amman, Jordan.

Oct. 14, 2021, “Machine Learning in Telecommunications: Automation and Profitability,” an invited presentation to Texas A&M University, College Station, TX, USA.

Aug. 19, 2021, “Machine Learning in Telecommunications: Automation and Profitability,” an invited online presentation to Harvard Business School, Cambridge, MA, USA.

Mar. 29, 2021, “Data Engineering Fluency in Radio Access Networks,” (*series of talks*), Coppell, TX, USA.

Jul. 7, 2020, “Using Machine Learning in 5G Radio Access Networks,” (*series of talks*), Coppell, TX, USA.

Feb. 13, 2020, “Enhanced Carrier Aggregation in Rel. 13 LTE,” Plano, TX, USA.

Nov. 24, 2019, “Citizens Broadband Radio Services (CBRS),” Plano, TX, USA.

May 19, 2019, “Hybrid Automatic Repeat Request (HARQ) in LTE,” Plano, TX, USA.

Jun. 19, 2018, “Machine Learning in Wireless Communications,” Mumbai, India.

Sep. 17, 2017, “In-building Solutions Design,” Noida, India.

Sep. 10, 2017, “LTE Capacity and Dimensioning,” Bengaluru, India.

Oct. 17, 2016, “Machine Learning Enables Network Intelligence,” Kista, Sweden.

May 15, 2013, “Heterogeneous Networks Design and Planning,” Plano, TX, USA.

Professional Training

2023, Nokia Mentor
2022, Nokia Bell Labs Consultant Foundations and Critical Roles
2022, AWS Cloud Practitioner. Certified in June 2022
2020, Nokia Big Data Architecture
2020, Nokia 5G RAN: Air Interface
2019, Samsung LTE RAN Scheduling Algorithms
2016, Ericsson Big Data and Machine Learning Summit
2014, Ericsson Consulting Core Curriculum
2013, Ericsson SPIN 2.0 Sales Tactics
2013, Ericsson Heterogeneous Networks Design and Optimization
2012, Ericsson Leadership Core Curriculum for Individual Contributors
2011, Ericsson Finance for Non-Finance Managers
2010, Ericsson LTE Signaling and Procedures
2009, Ericsson LTE Air Interface
2008, Motorola HSPA+ Air Interface
2007, Motorola RF Optimization and Design
2006, Sun Solaris System Administrator, Network Administrator, and Security Administrator. Certified in 2009
2006, Cisco Certified Network Associate (CCNA). Certified in September 2006
2006, Motorola Project Leadership, Management, and Communication, Motorola Operations Management Center for UMTS (OMC-U): Data and Operating Systems
2005, Motorola Home Location Server, UMTS WCDMA Air Interface, Protocols, and Signal Procedures
2004, Motorola GSM Radio, Motorola Soft Switching and SS7 Signaling

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