

TURE PEKEN

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Experience

Keysight Technologies

System Engineering Intern

Santa Rosa, CA

May 2018 – present

- Developed a demodulator for GFDM (one of the 5G candidate signals) in MATLAB and a macro for VSA to analyze demodulated GFDM signals in C#.
- Developed a blind separation algorithm based on independent component analysis (ICA) in MATLAB for separating undesired signals when measuring a 5G signal.
- Neural network based ICA was implemented for estimating beamforming weight factors of multiple mixed cell signals in FD-MIMO.

Ephibian

Consultant

Tucson, AZ

Aug. 2017 – Dec. 2017

- Worked as a consultant for developing CellSim, which is a simulator for cellular networks (GSM, CDMA, UMTS, LTE, WIFI) and it is currently being used as a teaching material for CYBV 479

Keysight Technologies

R&D Engineering Intern

Santa Rosa, CA

May 2017 – Aug. 2017

- Worked on 5G New Radio Technologies.
- Implemented physical channels and channel encoder for 5G systems based on TS 38.211 and TS 38.212 using MATLAB.
- Developed a novel hybrid beamforming algorithm, which was based on map-reduce framework, for 5G and integrated into SystemVue.

Keysight Technologies

R&D Engineering Intern

Santa Rosa, CA

May 2016 – Aug. 2016

- Worked on channel estimation for massive MIMO which is one of the candidate technologies in 5G.
- Implemented pilot-based, semi-blind, and blind channel estimation algorithms by using C++.
- Integrated channel estimation algorithms with SystemVue.
- This work was presented as a poster titled "Evaluation of Channel Estimation Methods for 5G Radio Interface with Hardware Constraint" in WCNC 2017.

Netas

Software Design Engineer

Istanbul, Turkey

Nov. 2013 – Sept. 2014

- Worked on software design of LTE-Advanced eNodeB for uplink.
- Focused on LTE physical layer design and developed channel estimation and equalization algorithms for the receiver of the eNodeB.
- Implemented channel estimation and equalization algorithms by using C in Code Composer Studio.
- Tested the algorithms on TCI6638K2K which is a DSP model of Texas Instruments.

Education

University of Arizona

PhD in Electrical and Computer Engineering, GPA:3.78/4.00

Tucson, AZ

Sept. 2014 – present

Coursework: Network Information Theory with Engineering Applications, Statistical Machine Learning, DSP, Knowledge-Based Systems, Channel Coding, Advanced Topics in Computer Networks, Linear Algebra, Wireless Communications, Theory of Statistics, Independent Study on Millimeter-wave Massive MIMO

University of Michigan

Master of Science in Electrical Engineering, GPA:3.34/4.00

Ann Arbor, MI

Sept. 2011 – Dec. 2012

Coursework: Digital Communication and Coding, Communication Networks, Stochastic Processes, Probability, Mathematical Methods for Signal Processing, Game Theory, Real Time Computing

Istanbul Technical University

Bachelor of Science in Telecommunications Engineering, GPA:3.78/4.00

Istanbul, Turkey

Sept. 2006 – Jan 2011

Ranked **3rd** in Telecommunications Engineering

Istanbul Technical University

Bachelor of Science in Computer Engineering, GPA:3.69/4.00

Istanbul, Turkey

Sept. 2006 – May 2011

Ranked **4th** in Computer Engineering.

Teaching Experience

University of Arizona

Lecturer

- o This lecture conforms to the National Security Agency NSA Center of Academic Excellence in Cyber Operations
- o Taught wireless technologies, mobile protocols, mobile identifiers, mobile and location-based services, mobile encryption standards, wireless security.

Wireless Networking and Security (CYBV 479)

Jan. 2017 – May 2018

University of Arizona

Teaching Assistant

Microprocessor Organization (ECE 372A)

Sept. 2015 – May 2016

University of Arizona

Teaching Assistant

Computational Techniques (ECE 330)

Jan. 2015 – May 2015

University of Arizona

Teaching Assistant

Applications of Engineering Mathematics (ECE 310)

Sept. 2014 – Dec. 2014

Publications

- o T. Peken, R. Tandon, and T. Bose, "Non-Gaussian Signal Detection: How much can massive MIMO help?", IEEE ICC, 2018.
- o T. Peken, R. Tandon, and T. Bose, "Map-Reduce Based Hybrid Beamforming: Trade-Off between Complexity and Cost," in in the Proceedings of WInnComm 2017.
- o T. Peken, R. Tandon, and T. Bose, "Elastic Net for Channel Estimation in Massive MIMO", in International Telemetering Conference, 2017
- o T. Peken, G. Vanhoy, and T. Bose, "Blind Channel Estimation for Massive MIMO," Analog Integrated Circuits and Signal Processing (2017) 91: 257
- o T. Peken, M. Hirzallah, and T. Bose, "Effect of Imperfect Channel Estimation on Spectrum Sharing Between the Massive MIMO System and MIMO Radar," in the Proceedings of the SDR-WInnComm, pp. 178 - 182, March 24-26, 2015.
- o S. Ozen, T. Peken, and S. Oktug, "Energy Efficient Wireless Sensor Network System for Localization", EMERGING 2012, The Fourth International Conference on Emerging Network Intelligence, pp. 43-48.
- o T. Peken and U. Aygolu, "Adaptive physical layer network coding," 2011 6th International ICST Conference on Communications and Networking in China (CHINACOM), Harbin, 2011, pp. 1146-1150.

Awards

- o The University of Arizona GPSC Travel Grant for ICC 2018 (May 2018)
- o College of Engineering Travel Grant for WInnComm 2017 (Nov. 2017)
- o Poster "Elastic Net for Channel Estimation in Massive MIMO" ranked 3rd in Broadband Wireless Access and Applications Center 2016
- o Turkish Foundation Education Scholarship (Sept. 2011 – Dec. 2012)
- o High Honor List in Istanbul Technical University (Sept. 2006 – May 2011)

Tehcnical Skills

- o MATLAB, C, NesC, C++, QT, C#
- o Python, R, SQL, TinyOS, Assembly
- o MXG, PXA, Field Fox
- o SystemVue, Signal Studio, VSA
- o Eclipse, Netbeans, Visual Studio, Code Composer Studio