

FURKAN ERCAN

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EDUCATION

McGill University

(Current)

Degree: Ph.D. in Electrical & Computer Engineering

Research: Polar Code Decoder Algorithms & Implementations for 5G Wireless Communications

Middle East Technical University

June 2015

Degree: M.Sc. in Sustainable Environment & Energy Systems

Research: Energy-Efficient Arithmetic Multiplier VLSI Architecture & Design

Overall GPA: 3.9/4.0

Middle East Technical University

June 2011

Degree: B.Sc. in Electrical & Electronics Engineering

Overall GPA: 3.3/4.0 (1st Rank in Department)

WORK EXPERIENCE

McGill University

September 2015 - Present

Teaching Assistant

Montréal, QC, Canada

- Designed and performed tutorials & labs for Computer Organization, Digital System Design, Digital Logic courses.

Middle East Technical University

September 2012 - June 2015

Teaching & Research Assistant

Ankara, Turkey

- Designed and performed tutorials & labs for Digital Logic Design, Analog & Digital Electronics, Computer Architecture and VLSI Design courses.

Intel Corporation

July 2011 - July 2012

Full Time Research Intern

Hillsboro, OR, USA

- System-level energy-aware power management policy description, implementation and verification on enterprise platforms.
- Experience with Intel server/PC architecture platforms, SPEC CPU 2006 benchmark.

ASELSAN

Summer 2010

Summer Intern

Ankara, Turkey

- Data transfer optimization on military radio products.

TECHNICAL STRENGTHS

Computer Languages

C/C++, VHDL, MATLAB, Assembly, L^AT_EX, Perl

Tools & Platforms

FPGA, Quartus, Vivado ISE, ModelSim, Cadence, Linux, Git

AWARDS

2020 IEEE Communications Society Student Grant Award for ICC 2020.

2020 Third place in the province at Quebec Engineering Competition Graduate Research Track.

- 2019 First place award at McGill Engineering Competition Graduate Research Track for the oral presentation featuring “Energy-efficient hardware architectures for fast polar decoders”.
- 2019 Second place award at 6th IEEE Montreal Research Boost for the poster presentation titled “Energy-efficient polar decoders for 5G and beyond”.
- 2018 Best Teaching Assistant Award from the Faculty of Engineering, McGill University for tutoring Digital System Design course.
- 2018 Graduate Research Enhancement and Travel (G.R.E.A.T) award for conference proceeding to be presented in IEEE Wireless Communications and Networking Conference (WCNC), Barcelona, Spain.
- 2017 Exemplary Student Branch Award for chairing McGill IEEE Student Branch.
- 2015 McGill Engineering Doctoral Award (Roger Boudreault Doctoral Fellowship).
- 2015 Best Paper Award in 5th International Conference on Energy Aware Computing Systems & Applications (ICEAC) 2015, Cairo, Egypt.
- 2007-2011 Multiple High Honour degrees for excellence throughout the undergraduate degree.

SELECTED PUBLICATIONS

1. **F. Ercan**, T. Tonnellier, N. Doan, W. J. Gross, “Simplified Dynamic SC-Flip Polar Decoding”, In: *IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP) 2020*, Barcelona, Spain.
2. **F. Ercan**, T. Tonnellier, and W. J. Gross, “Energy-Efficient Hardware Architectures for Fast Polar Decoders,”, in *IEEE Transactions on Circuits and Systems I - Regular Papers (TCAS-I)*, Oct. 2019.
3. **F. Ercan**, C. Condo, and W. J. Gross, “Improved Bit-Flipping Algorithm for Successive Cancellation Decoding of Polar Codes,”, *IEEE Transactions on Communications (TCOM)*, vol. 67, no. 1, pp. 61-72, Jan. 2019.
4. **F. Ercan**, C. Condo, S. A. Hashemi, W. J. Gross, “Partitioned Successive-Cancellation Flip Decoding of Polar Codes”, In: *IEEE International Conference on Communications (ICC) 2018*, Kansas City, USA.
5. **F. Ercan**, C. Condo, S. A. Hashemi, W. J. Gross, “On Error-Correction Performance and Implementation of Polar Code List Decoders for 5G”, In: *Allerton Conference on Communication, Control, and Computing 2017*, Urbana, USA.

PROFESSIONAL VOLUNTEERING EXPERIENCE

- 2017 Volunteer coordinator in 5th IEEE Global Conference on Signal and Information Processing.
- 2016 Chair in [McGill IEEE Student Branch](#).
- 2013 Graduate Program Student Delegate
- 2012 Technical organization of 3th IEEE International Conference on Energy Aware Computing Systems.
- 2011 Founded and chaired [IEEE METU NCC Student Branch](#).
- 2010 Technical organization of Mediterranean Microwave Symposium (MMS).

EXTERNAL RESOURCES

[Personal Webpage](#) / [LinkedIn](#) / [Google Scholar](#) / [ResearchGate](#) / [McGill ISIP Lab](#)