FURKAN ERCAN

Citizenship: Turkey ◇ Gender: Male
3480 Rue University, Montréal, QC, Canada H3A 0E9
+1 ·(514) · 240 · 8940 ◇ furkan.ercan@mail.mcgill.ca

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 (1^{st} Rank in Department)

AWARDS

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 6^{th} 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.

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.

SELECTED PUBLICATIONS

1. **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.
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)*, DOI: 10.1109/TCSI.2019.2942833.
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. C. Condo, **F. Ercan**, W. J. Gross, "Improved Successive Cancellation Flip Decoding of Polar Codes Based on Error Distribution", In: *IEEE Wireless Communications and Networking Conference (WCNC) 2018*, Barcelona, Spain.
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.
6. **F. Ercan**, C. Condo, W. J. Gross, "Reduced-Memory High-Throughput Fast-SSC Polar Code Decoder Architecture", In: *IEEE International Workshop on Signal Processing Systems (SiPS) 2017*, Lorient, France.

TECHNICAL STRENGTHS

Computer Languages	C/C++, VHDL, LaTeX, Perl, MATLAB
Tools & Platforms	FPGA, Quartus, Vivado ISE, ModelSim, Cadence, Linux, GitLab

PROFESSIONAL VOLUNTEERING EXPERIENCE

2017 Volunteer coordinator in 5^{th} IEEE Global Conference on Signal and Information Processing.

2016 Chair in McGill IEEE Student Branch.

2013 Graduate Program Student Delegate

2012 Technical organization of 3^{th} 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

LinkedIn / **Google Scholar** / **ResearchGate** / **McGill ISIP Lab**