CIHAN ASCI

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EDUCATION

Tufts University, Medford, MA, USA — *Sep. 2018–Present*
Ph.D. in Electrical & Computer Engineering — CGPA: 3.88 / 4.00.
Research Interests: Analog/mixed–signal circuit design, sensors, RF circuits.

Middle East Technical University, Ankara, Turkey — *Feb. 2016–Aug. 2018*
M.S. in Electrical & Electronics Engineering — CGPA: 3.57 / 4.00.
Concentration: Electromagnetics, Microwaves and Antennas.
Thesis: Design and Implementation of VHF–UHF Antenna with Non–Foster Matching Circuit

Cankaya University, Ankara, Turkey — *Sep. 2010–Jun. 2015*
B.S. in Electronic & Communication Engineering (valedictorian) — CGPA: 3.94 / 4.00.
Senior Project: Fabrication of Conductive AZO Thin Films on Plastic Substrates
Minor in Materials Science and Engineering (Sep.2013–Jun.2015) — CGPA: 3.02 / 4.00.

EXPERIENCE

Analog Devices, Inc. — *Jun. 2023–Sep.2023*
High–Speed DAC Product Engineering Intern — *Wilmington, MA*

· Development of bench hardware and software to control and automate test equipment using Python.
· Evaluation of SFDR and IMD performance of high-speed DACs. Helped improve static and dynamic DAC calibration. Evaluated various DAC related blocks such as delay-locked loop circuit and data scrambler.

Analog Devices, Inc. — *May. 2022–Aug.2022*
High–Speed DAC Product Engineering Intern — *Wilmington, MA*

· Development of bench hardware and software to control and automate test equipment using Python.
· Evaluation of SFDR performance of high–speed DACs over PVT. Performed and improved static and dynamic DAC calibration and delay–locked loop circuit.

Tufts University, Nanoscale Integrated Sensors and Circuits Lab. — *Sep. 2018–Present*
Graduate Teaching/Research Assistant — *Medford, MA*

· Design and implementation of a low–power multiplexed analog front–end (AFE) for sensing applications.
· Design and implementation of ingestible sensing capsules comprised of 6–DoF IMU, temperature sensor, pH sensor and external EEPROM. Developed and improved device libraries written in C++. Developed an audio signal analyzer in Python for in–vivo sampling capsule tests.

Middle East Technical University, Ayasli Research Center — *Oct. 2016–Dec. 2017*
Scientific Project Expert — *Ankara, Turkey*

· Designed and implemented a non–Foster impedance matching network using negative impedance converters for wire monopole antennas in VHF–UHF band.
· Designed and implemented broadband efficient monopole antennas using reactive loading concept with genetic algorithm.
· Designed different RF filters comprised of lumped elements that cover 146–512 MHz band.

TECHNICAL STRENGTHS

Programming Languages	C, C++, Python, Verilog/SystemVerilog, HTML5/CSS3.
Tools	Cadence Virtuoso/Genus/Innovus, Altium Designer, AWR Microwave Office, ADS, LTSpice, MATLAB/Simulink, LaTeX, MS Office.

PUBLICATIONS

Sharma, A., **Asci, C.**, Marty, J.L. & Sonkusale, S. (2024). Wearable Biosensors on Sutures and Threads in Wearable Biosensing in Medicine and Healthcare, pp. 267-297. Springer Nature Singapore.

Asci, C., Sharma, A., Del-Rio-Ruiz, R. & Sonkusale, S. (2023). Ingestible pH sensing device for gastrointestinal health monitoring based on thread-based electrochemical sensors in Microchimica Acta, 190, 10. DOI:10.1007/s00604-023-05946-1.

Sharma, A., **Asci, C.**, Del-Rio-Ruiz, R., Trinidad, K., Hossain, N.I., Kaplan, D.L. & Sonkusale, S. (2023). Multiplexed Sensing Probe for Bioreactors for Cellular Agriculture. IEEE Sensors Letters, vol. 7, no. 8, pp. 1-4. DOI:10.1109/LSENS.2023.3300799.

Wang, W., **Asci, C.**, Zeng, W., Owyeung, R. & Sonkusale, S. (2023). A frequency-adjustable helical antenna using shape memory alloy in Applied Physics Letters. vol. 123, no. 4. DOI:10.1063/5.0154602.

Wang, W., **Asci, C.**, Zeng, W., Zeng, W. & Sonkusale, S. (2023). Zero-power screen printed flexible RFID sensors for Smart Home in Journal of Ambient Intelligence and Humanized Computing. vol. 14, no. 4, pp. 3995-4004. DOI:10.1007/s12652-022-04466-9.

Asci, C., Del-Rio-Ruiz, R., Sharma, A. & Sonkusale, S. (2022). Ingestible pH Sensing Capsule with Thread-Based Electrochemical Sensors in 2022 IEEE Sensors. pp. 1-4.

Das, R., Zeng, W., **Asci, C.**, Del-Rio-Ruiz, R. & Sonkusale, S. (2022). Recent progress in electrospun nanomaterials for wearables in APL bioengineering. vol. 6, no. 2. DOI:10.1063/5.0088136.

Asci, C., Sadeqi, A., Wang, W., Nejad, H.R. & Sonkusale, S. (2020). Design and implementation of magnetically–tunable quad–band filter utilizing split–ring resonators at microwave frequencies in Scientific reports, vol. 10, no. 1050. DOI:10.1038/s41598-020-57773-6.

Asci, C., Wang, W. & Sonkusale, S. (2020). Security monitoring system using magnetically-activated RFID Tags. 2020 IEEE Sensors. pp. 1–4. DOI:10.1109/SENSORS47125.2020.9278750.

AWARDS & SCORES

Tufts University	Full Scholarship, Sep. 2018–Present.
Cankaya University	Graduated as Valedictorian in 2015. High Honor Student (2011–2015).
Test Scores	GRE Q: 170/170, TOEFL iBT: 103/120.

REFERENCES

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