

CIHAN ASCI

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EDUCATION

- Tufts University**, Medford, MA, USA *Sep. 2018–Jul. 2024*
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.
Minor in Materials Science and Engineering (Sep.2013–Jun.2015) CGPA: 3.02 / 4.00.

EXPERIENCE

- Analog Devices, Inc.** *Jul. 2024–Present*
Senior Design Evaluation Engineer, High–Speed ADCs *Wilmington, MA*
 - Evaluation and characterization of high–speed ADCs and DACs for next generation transceiver products.
 - Functional and performance evaluation of core technologies and calibration algorithms.
 - Development of bench hardware and software to control and automate bench test equipment using Python.
- Analog Devices, Inc.** *Jun. 2023–Sep.2023*
Product Engineering Intern – High–Speed DACs *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*
Product Engineering Intern – High–Speed DACs *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 circuits.
- Tufts University**, Nanoscale Integrated Sensors and Circuits Lab. *Sep. 2018–Jul. 2024*
Graduate Teaching/Research Assistant *Medford, MA*
 - Designed a low–power multiplexed analog front–end (AFE) for sensing applications.
 - Designed and implemented ingestible sensing capsules comprised of 6–DoF IMU, temperature sensor, electrochemical pH/O₂ sensors and external EEPROM. Designed and implemented of various ingestible sampling capsules for targeted sampling in the GI tract. Implemented different sensing techniques and signal processing algorithms.
 - Designed and implemented a miniaturized wireless heart and respiration rate monitoring system for small birds.
- Middle East Technical University**, Ayasli Research Center *Oct. 2016–Dec. 2017*
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, LTSpice, MATLAB/Simulink, L^AT_EX, MS Office.

PUBLICATIONS AND PATENTS

Sonkusale, S., Del-Rio-Ruiz, R. & **Asci, C.** (2025). Ingestible Biosensing Capsule with Integrated Thread-Based Sensors. US Patent App. 18/834,347. Link: <https://patents.google.com/patent/US20250040891A1/en>

Asci, C., Sharma, A., Del-Rio-Ruiz, R. & Sonkusale, S. (2024). A multiplexed sensing system with multimodal readout electronics and thread-based electrochemical sensors for high throughput screening, Electrochimica Acta, 501. DOI:10.1016/j.electacta.2024.144798

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.

Riccio, R., **Asci, C.**, Zeng, W., Oweyung, R., Romero, M. & Sonkusale, S. (2024). Wireless Heart and Respiration Rate Monitoring in Birds Using Skin Mounted Eutectogel Coated Threads in Advanced Materials Technologies, 2400202. DOI:10.1002/admt.202400202

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., Oweyung, 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–Jul. 2024.
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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