

Kelsey Horace-Herron

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EDUCATION

University of Florida, Gainesville, FL

MS/Ph.D., Computer Engineering

2020 – Present

Jackson State University, Jackson, MS

Bachelor of Science, Computer Engineering

2016 – May 2020

INTERNSHIP/RESEARCH EXPERIENCE

University of Florida, Department of Electrical & Computer Engineering

Gainesville, FL

Current Graduate Research

2020 - Present

Proposal: “Detecting Illegal Substances Non-Invasively Using Nuclear Quadrupole Resonance Spectroscopy”

- Built Nuclear Quadrupole Resonance (NQR) Spectroscopy setup to test and detect a variety of substances
- Created matching network and PCB coil for NQR system
- Accomplished detecting illegal substances in mail packages

Naval Research Laboratory

Washington, DC

Graduate Research Intern

Summer 2020

- Assist Dr. Paul Jaffe and his research team on gathering and analyzing PRAM FX satellite data
- Drafted python and MATLAB scripts for a more feasible analyzation
- Presented results to governor and military personnel

University of Florida, Department of Electrical & Computer Engineering

Gainesville, FL

Undergraduate Research Intern

Summer 2019

- Worked alongside a PhD graduate student in detecting harmful chemicals and substances in every day products using a handheld Near Infrared Region (NIR) Spectroscopy.
- Experimented with triclosan ingredient to find the frequency and to obtain signal using NIR spectroscopy

University of California – Berkeley, Department of Electrical Engineering & Computer Sciences

Berkeley, CA

Undergraduate Research Intern

Summer 2018

- During this internship I helped PhD mentor on research project that was based around back-end-of-line nanotechnology reconfigurable interconnects
- Formed a SF₆ and O₂ anisotropic etch recipe on a 65nm node chip to release moveable beam in UC-Berkeley nanofabrication laboratory
- Collected images of 65nm node chip after etching process using a scanning electron microscope (SEM) machine
- Test node chip on vacuum probe station by apply voltage to find device properties

PUBLICATIONS

Sikder, U., Horace-Herron, K., Yen, T., Usai, G., Hutin, L., Stojanović, V.M., & Liu, T.K. (2021). Toward Monolithically Integrated Hybrid CMOS-NEM Circuits. *IEEE Transactions on Electron Devices*.

Shomaji, S.; Masna, N.V.R.; Ariando, D.; Deb Paul, S.; Horace-Herron, K.; Forte, D.; Mandal, S.; Bhunia, S. Detecting Dye-Contaminated Vegetables Using Low-Field NMR Relaxometry. *Foods* **2021**, *10*, 2232.

U. Sikder, G. Usai, T. -T. Yen, K. Horace-Herron, L. Hutin and T. -J. K. Liu, "Back-End-of-Line Nano-Electro-Mechanical Switches for Reconfigurable Interconnects," in *IEEE Electron Device Letters*, vol. 41, no. 4, pp. 625-628, April 2020, doi: 10.1109/LED.2020.2974473.

SKILLS/CLEARANCES

- Skills: C++, Python, MATLAB, GNU Octave, SolidWorks, LATEX, Data analysis
- Security Clearances: Secret

