JOSEPH V. D'AMICO IV

Electrical Engineer and Researcher

RADIATION EFFECTS | IC DESIGN | EMBEDDED SYSTEMS

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PERSONAL STATEMENT

My main professional goal is to put my background in electrical and computer engineering to good use in a fulfilling R&D career. As a quick learner with a solid understanding of programming and engineering fundamentals, I believe I am well-equipped to make meaningful contributions to almost any team effort by leveraging past experience and developing new skills as necessary. I have worked on projects ranging from low-level ASIC layouts to high-level machine-learning software, but my recent projects have focused on characterizing the effects of radiation on microelectronics. I am willing and able to attain a DOE security clearance, if necessary, and references are available upon request.

EXPERIENCE

Graduate Research Assistant

Vanderbilt University

August 2018 – Present — Nashville, TN

- Ph.D. student in the radiation effects and reliability group.
- Currently researching built-in self-test (BIST) designs for radiation characterization circuits.

Tools used: Cadence, KiCADC, C, Python, MATLAB, Linux

SEERI R&D Graduate Intern

Sandia National Laboratories

May 2022 – August 2022 — Albuquerque, NM

- Went on trips to radiation-testing facilities and gained valuable experience with TID and low-dose-rate testing.
- Analyzed TID-induced threshold-voltage shifts in SiC power devices.

Tools used: Python

PROJECTS

Photocurrent Measurement Circuit

Vanderbilt Institute for Space and Defense Electronics

- Our team designed and fabricated two ASICs containing an on-chip method for measuring and characterizing photocurrent.
- Designed and laid-out BIST circuitry that enabled a beam utilization time of 85% of the theoretical maximum at a flash-x-ray facility.
- Worked on custom PCB and software used to test both ASICs.
- Performed heavy-ion, transient-photocurrent, and TID expirements.

Tools used: Cadence, KiCad, C, Python, MATLAB, Linux

A Digital Cure for Epilepsy 2018

Rice University and University of Texas Health Science Center

- Our team researched and created a prototype system-on-module capable of predicting and preventing seizures in patients who are unable to rely on traditional epilepsy treatment options.

Tools used: C, Python

SKILLS

Programming

C/C++, Python, MATLAB + Simulink, Verilog

Software and Platforms

Cadence Virtuoso, KiCad, Linux, Arduino

Concepts

Radiation Effects, Radiation Testing, IC Design, Embedded Systems, Digital Design, Parallel Programming, PCB Design, Data Interpretation

EDUCATION

Ph.D. in Electrical Engineering

Vanderbilt University

In Progress

GPA: 3.941

M.S. in Electrical Engineering

Vanderbilt University

2021

Computer Science Minor

B.S. in Electrical Engineering

Rice University

2018

Business Minor

PUBLICATIONS

Use QR code for publication list:

or ORCID ID 0000-0002-7163-572X