JOSEPH V. D'AMICO IV

Electrical Engineer and Researcher

RADIATION EFFECTS | IC DESIGN | EMBEDDED SYSTEMS

joseph.v.damico@vanderbilt.edu
joseph-damico-iv
0000-0002-7163-572X
josephdamico.engineer

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

ORCID iD with publication list: