YONI XIONG

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EDUCATION

Vanderbilt University
B.E. Electrical Engineering

- Expected: May 2021
  GPA: 3.95 / 4.00

Relevant Coursework

- FPGA Design, Microcontrollers, Electronics, Signals and Systems, Electromagnetics, Circuits I/II, Digital Logic, Linear Algebra

WORK EXPERIENCE

Vanderbilt University
Undergraduate Research Assistant
August 2018 – Present

- Investigated the aging effects of high temperature stress at the 7-nm and 16-nm FinFET CMOS node.
- Lead author on abstract discussing total ionizing dose characterization of 7-nm transistor degradation using ring oscillator frequency.
- Designed and populated printed circuit boards to regulate voltage to custom-designed 7-nm FinFET CMOS soft error characterization integrated circuit.

Northrop Grumman Corporation
Radiation Effects Analyst
May – August 2019

- Developed 3 full stack applications for automated data collection from radiation testing on electronics for space applications.
- Produced 3 software executables for remote communication with test equipment (oscilloscopes, multimeters, and power supplies).
- Mentored high school intern on full stack application development.

Carlsbad Environmental Monitoring and Research Center
Student Lab Intern
May – August 2018

- Separated actinides (Pu/U/Am) from soil, air filter, and water samples to determine the effects of low-level nuclear waste storage on the environmental background radiation levels.

Sandia National Laboratories
Student Lab Intern
May – August 2017
May – August 2016

- Investigated geochemical effects for the 100+ year storage of low level nuclear waste in salt beds.
- Artificially grew and harvested crystals to determine partition coefficients of potential fission products.
- Grinded 15+ different mineral samples into colloids to test stability in high ionic brine solutions.

PROJECTS

Autonomous Maze Robot
May 2019

- Developed software for a maze solving robot, with AVR assembly language, to solve any maze with the most efficient method.

Radionuclide Migration
August–- May 2018

- Extensively surveyed the migration of plutonium associated with radiation release events by using isotopic ratios from 30+ academic studies.

EXTRACURRICULAR ACTIVITIES

Vanderbilt MotorSports Baja SAE Competition Team
Electrical Team Member
January – May 2018

- Delivered the schematic and printed circuit board for a safe high voltage battery discharge system in electric car.
- 3D-modeled 20+ components of the electrical system.

TECHNICAL SKILLS

Programming

- Java, C++, ANSI C, VHDL, LabWindows CVI, AVR, Arduino

Modeling/Data Analysis

- Mathematica, MatLab, Inventor, SigmaPlot, Excel/Word

Circuit/Schematic Design

- LTSpice, Eagle, Quartus Prime