Andrew Franklin

Professional Interests

Computational and Computer Science, Applied Mathematics, Nuclear Engineering, Thermal Hydraulics, Radiation Heat Transfer, Compressible Flow, Two-Phase Flow

Education

Texas A&M University, College Station, TX USA **2020**
M.S. Nuclear Engineering

- Advisor: Jean C. Ragusa
- Thesis: An Implementation of Surface-To-Surface, Blackbody Radiation Heat Transfer in a MOOSE Application

Texas A&M University, College Station, TX USA **2014**
B.S. Nuclear Engineering
Minors in Mathematics and Radiological Health Engineering

Work & Research Experience

Idaho National Laboratories, Idaho Falls, ID USA **2015 – 2019**
Intern in the RELAP-7 Group
Lead developer on Sockeye, a MOOSE based application to model and simulate high-temperature heat pipes and radiation heat transfer. Developed schematics software for RELAP-7.

Texas A&M, College Station, TX USA **2014 – 2018**
Teaching and Research Assistant

Sandia National Laboratories, Albuquerque, NM USA **2014**
Summer Intern in the Severe Accident Analysis Group
Developed tools written in python to streamline the analysis of MELCOR uncertainty cases. Developed visualization software for a MELCOR core and vessel model of the Fukushima Daiichi reactors.

Texas A&M University, College Station, TX USA **2012 – 2014**
Undergraduate Research Assistant
Developed visualization tools to analyze simulation results for multidimensional components.

IPT Global, Katy, TX USA **2011**
Field Technician Assistant
Conduct blow-out preventer pressure test for a Petrobras drillship.

Skills

- Git
- Programming Languages:
  - Python: experience with pytest, sphinx, matplotlib, NumPy, SciPy
  - C/C++: Including OO design
  - Fortran
- LaTeX
- MOOSE
- Thermal Hydraulic Codes: RELAP5-3D & RELAP-7
- Lattice Physics Codes: CASMO-5 & DRAGON
- Severe Accident Code: MELCOR

Awards

- INL Exceptional Innovation Contribution Award, 2019
- ANS Student Conference Best Paper Award, 2013
- Dean's Honor Roll, 2012
- Eagle Scout, 2008

Certificates

- Engineer-In-Training, Texas Board of Professional Engineers, 2015 – 2023
- Completion of the Business Immersion for Engineers, Mays Business School, 2019

Publications

A. Franklin, R. Vaghetto. *"Visualization of RELAP5-3D: Thermal-Hydraulic Properties of Multi-Dimensional Components to Study Core Blockage Scenarios".* ANS Student Conference, 2013

Vaghetto, R., **Franklin, A.** and Hassan, Y., *"Sensitivity Study of Hypothetical Debris-Generated Core Blockage Scenarios"*, American Nuclear Society Conference, 2013.