Aaren Rice

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Education

University of South Carolina — Columbia, SC
Masters of Science in Nuclear Engineering — *2013 - 2015*

University of Tennessee — Knoxville, TN
Bachelor of Science in Nuclear Engineering — *2007 - 2012*

Work Experience

The Aerospace Corporation — El Segundo, CA
Senior Systems Engineer - Software Development — *2018 - Present*
  – Project lead for full-stack, custom ETL service to migrate data into ontology-backed standardized data model
  – Lead developer for internal Python tool to analyze large NxM Satellite/Ground Terminal RF interference events
  – Develop large-scale, system-of-system tools to perform modeling and simulation of DoD and NRO space systems

Savannah River Nuclear Solutions — Aiken, SC
Criticality Safety Engineer — *2017 - 2018*
  – Modeling and simualtion of process-specific nuclear criticality scenarios to ensure safe processing configurations
Systems Process Engineer — *2015 - 2017*
  – Analyzed trends of facility parts inventory to ensure appropiate stock levels were met for continuous processing needs

University of South Carolina — Columbia, SC
Research Assistant — *2013 - 2015*
  – Developed the South Carolina segment of BISON C++ code to analyze simulations of advanced reactor fuels

Idaho National Lab — Idaho Falls, ID
Fuels Performance Modeling and Simulation - Intern — *2014*
  – Validated the BISON nuclear fuel performance code by comparing simulated results with in-reactor experiments

Projects

Professional
  – Project lead for full stack, Python-based ETL service built on frontend React app with Python Flask/Flask-RESTX backend framework served on an Apache VM
    - ETL translators written in Python developed to interface with various sources including: SQL databases, Neo4j databases, Palantir Foundry API, REST services, JSON, XML, Excel, and flat files
    - Deployed containerized service to Aerospace internal cloud network on CI/CD pipeline using Jenkins
  – Enabled other staff to easily interface with multiple legacy tools written in C by developing Python APIs to wrap underlying libraries or communicate via TCP/IP connection
  – Developed and deployed a web data extraction tool on a disjointed network to centralize feed data for numerous tools

Personal
  – Pluralsight's *Building Web Applications with React* course to help solidify understanding of React
  – Automated video stitching tool using FFmpeg software and YouTube upload service using Python's googleapiclient

Skills

Languages: Python, JavaScript, Neo4j Cypher, Bash, C#, SQL, Java

Technical Skills: REST APIs, Object-oriented programming, Linux, Jenkins, Docker, Kubernetes, Rancher, AWS, distributed computing, Neo4j, GraphQL, React, Apache Nifi, LaTeX, JIRA, Kanban

Python Packages: Flask, Flask-RESTX, FastAPI, pytest, unittest, Pandas, Matplotlib, requests

Miscellaneous: VS Code, Postman, Palantir Foundry, Unity

Interests

Outdoors: Professional beach volleyball, pickleball, hiking with my dogs, fitness enthusiast

Academic: Continued education, full stack development, cryptocurrency, machine learning, process automation