LUKE MORRILL

QUALIFICATIONS AND SKILLS

Master of Science in Computer Science with specializations in Machine Learning and Computer Vision. Computer programming experience in Python, SQL, and C++. Familiarity with Python libraries such as OpenCV, Scikit-Learn, and NumPy. Seven years of experience as a professional software engineer.

EXPERIENCE

NASA LANGLEY RESEARCH CENTER – DATA SYSTEMS AST

Langley, VA 6/2019 – Present

Collaborated with Data Management Teams for CLARREO Pathfinder and CERES missions. Composed software in Python and C++. Developed continuous integration and containerization services. Participated in re-architecture and modernization efforts of CERES Clouds code base.

NASA LANGLEY RESEARCH CENTER – INTERN

Langley, VA 8/2018 – 12/2018

Performed software development on multiple research projects in Python. Work included parallelization of code for high performance computing, implementing deployment schemes, utilizing research papers, and creating documentation via Latex. Primary project was development of an open source implementation of the Multi-Level Monte Carlo algorithm targeting a user-friendly interface and multiprocessor support via MPI.

ALLIANCE ENTERPRISES – ASP.NET DEVELOPER

Dupont, WA 10/2012 – 7/2017

Performed software development in a business environment including creating web applications and web services. Provided enhancements and corrections in two-week sprints in an agile environment. Developed a variety of ASP.NET web applications using Web Forms, MVC, and WEBAPI in C#. Used Microsoft Visual Studio IDE and SQL Server Management Studio. Utilized Object-Oriented-Design concepts and development patterns. Developed various tools using .NET Windows Forms. Conducted

technical design reviews and code reviews, ensuring work adhered to established standards and practices.

PRESENTATIONS & PROCEEDINGS

James Warner, Samantha C. Niemoeller, Luke Morrill, Geoffrey Bomarito, Patrick Leser, William Leser, Robert A. Williams and Soumyo Dutta: Multi-Model Monte Carlo Estimators for Trajectory Simulation, Published Online: 4 Jan 2021.

J. E. Warner, P. E. Leser, L. Morrill, G. B. Bomarito, W. P. Leser, J. Barrientos, and M. Wang: Accelerating Uncertainty Quantification for Complex Computational Models, Defense and Aerospace Test and Analysis Workshop, Springfield, VA, April 9-11, 2019.

L. Morrill and J. E. Warner: Multi-Level Monte Carlo with Python: An Open-Source Python Library for Efficient Uncertainty Quantification, NASA Interns, Fellowships, and Scholarships (NIFS) Semester Presentation, Hampton, VA, December 12, 2018.

PROJECTS

CERES – Clouds and the Earth's Radiant Energy System

https://ceres.larc.nasa.gov

CLARREO Pathfinder - Climate Absolute Radiance and Refractivity Observatory

https://clarreo-pathfinder.larc.nasa.gov

MXMCPy – Open source Python package for implementing various Monte Carlo methods with multiple models.

https://github.com/nasa/MXMCPy

MLMCPy - Python implementation of MLMC algorithm

https://github.com/nasa/mlmcpy

SROMPy - Stochastic Reduced Order Models in Python

https://github.com/nasa/srompy

EDUCATION	**GEORGIA INSTITUTE OF TECHNOLOGY** – MASTER OF SCIENCE IN COMPUTER SCIENCE SPECIALIZATIONS: MACHINE LEARNING, COMPUTER VISION **MONTANA STATE UNIVERSITY –** BACHELOR OF SCIENCE IN MATHEMATICS MINOR IN COMPUTER SCIENCE
CERTIFICATIONS	MCSA: Web Applications MTA: Database Fundamentals MCTS: .NET Framework 2.0 Web Applications
ABILITIES	Outstanding analytical, problem-solving, and troubleshooting ability. Ability to multi-task and prioritize effectively. Excellent attention to detail. Willing to take on new challenges. Self-directed, highly motivated, and a valuable asset in a team.