

Reese Pearsall

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EDUCATION

Montana State University

August 2020 – August 2023

Master of Science in Computer Science

Bozeman, MT

Thesis: *An Evaluation of Graph Representations of Programs for Malware Detection and Categorization using Graph-Based Machine Learning Methods*

Montana State University

August 2016 – August 2020

Bachelor of Science in Computer Science, Minor in Sociology

Bozeman, MT

CURRENT APPOINTMENTS

Instructor (Non-Tenure Track)

August 2022 - Present

Montana State University

Bozeman, MT

- Responsible for teaching 2-3 computer science courses each semester
- Advise undergraduate students
- Courses taught: Computer Security, Computer Networks, Python Programming, Java Programming, Data Structures and Algorithms
- Average Instructor Rating: 4.8/5

TEACHING EXPERIENCE

Instructor (Graduate Student)

CSCI 127: Joy and Beauty of Data

Summer 2021, Winter 2020

Montana State University

Bozeman, MT

- Instructor of record for creating and delivering online Python and Data Science curriculum to approximately 30 students of diverse backgrounds
- Held weekly office hours and met 1-on-1 with students for extra support
- Maintained a course website for hosting course material and content:
<https://reesepearsall.github.io/classes/summer2021/127/main.html>
- Course Rating: 4.7/5 | 4.5/5
- Instructor Rating: 4.9/5 | 4.6/5

Teaching Assistant

CSCI 460: Operating Systems

Fall 2020

Montana State University

Bozeman, MT

- Assist 60+ undergraduate and graduate students with understanding and providing grading feedback on topics taught in upper-division operating systems class.
- Provide additional teaching and grading support for head instructor

CSCI 107: Joy and Beauty of Computing

Spring 2020

Montana State University

Bozeman, MT

- Assist 30+ undergraduate students (computer science majors and non-majors) with understanding topics taught in introductory programming course
- Responsible for grading and providing feedback on student assignments

CSCI 127: Joy and Beauty of Data

Fall 2018, Spring 2019, Fall 2019

Montana State University

Bozeman, MT

- Assist 30+ undergraduate students (computer science majors and non-majors) with understanding topics taught in introductory programming course through weekly lab sessions and 1-on-1 support
- Responsible for grading and providing feedback on student assignments

Guest Lecturer

Security in the Real World: Compliance

Spring 2021

Montana State University (CSCI 476: Computer Security)

- Deliver 50 minute talk on the importance of protecting digital company assets through the implementation of a compliance framework

RESEARCH EXPERIENCE

Research Assistant

August 2021 - August 2022

Montana State University

Bozeman, MT

- Member of the Software Engineering and Cybersecurity Lab (<https://www.montana.edu/cyber/>)
- Collaborated with MSU professors and researched different strategies for analyzing and classifying malware through different supervised and unsupervised machine learning techniques
- Conducted experiments using real malware for measuring effectiveness of machine learning techniques

INDUSTRY EXPERIENCE

Cybersecurity Software Engineer

June 2020 - August 2021

Hoplite Industries, Inc.

Bozeman, MT

- Create various tools and applications to deliver cutting-edge cybersecurity solutions for computer, cloud, and network systems.
- Develop client-side software using Javascript(jQuery) and HTML/CSS(Bootstrap)
- Develop server-side software using Python (Flask, PyMongo) and RESTful services
- Received weekly trainings on threat intelligence, threat detection, and event monitoring

Software Engineer Intern

February 2019 - June 2020

TechLink

Bozeman, MT

- Member of the TechLink Software Engineering and Analysis Laboratory (TSEAL).
- Develop automated testing solutions for Department of Defense enterprise software using a wide variety of testing tools and libraries, including Selenium, Visual Studios testing tools, SpecFlow, and BDD testing with step definitions with Gherkin and C# .
- Identified bugs in software and created bug reports to send to government engineers

Software Engineer Intern

May 2019 - August 2019

United States Air Force

Hill AFB, UT

- Worked together with a development team to create an updated and modernized calibration software that tests the working condition of a (unclassified) mobile ground radar system.
- Work included software testing and implantation of new software features using a variety of technical resources and libraries
- Practice Agile and DevOps methodologies.
- Obtained a security clearance to gain the ability to work on various Air Force technologies.

RESEARCH PUBLICATIONS

- Liyanage K., Pearsall R., Izurieta C., Whitaker B., “*Malware Detection Using Unsupervised Clustering of Binary File Control Flow Graphs*” In Progress
- Liyanage K., Pearsall R., Izurieta C., Whitaker B., “*Dictionary Learning On Graph Data With WeisfielerLehman Sub-Tree Kernel and KSVD*,” ICASSP 2023

TECHNICAL SKILLS

Languages: Python, Java, C/C++, GoLang, SQL, HTML/CSS

Operating Systems: Windows and Linux

Database & Web Frameworks: SQLite, MongoDB, jQuery, Selenium, Gherkin, Bootstrap

Developer Tools: Basic Linux tools, Git, Docker, Wireshark, Brim, Microsoft Visual Studios, Netbeans, Eclipse, JetBrains IDEs, Mercurial, Postman, GDB/Valgrind, IDA Pro, Ghidra

Libraries: pandas, NumPy, Matplotlib, ANGR

AWARDS & HONORS

Outstanding Graduate Teaching Assistant Award: Spring 2021

Outstanding Undergraduate Teaching Assistant Award: Spring 2019

TEACHING INTERESTS

Cybersecurity-related courses (Computer Security, Web/Network Security, Malware Analysis)

Introductory and Advanced Programming Classes (Python, Java, Data Structures & Algorithms)

Computer Networks and Networking Protocols

Operating Systems and Computer Systems

Cyber Crime