

Research and Training Experience for Undergraduates in the areas of Cybersecurity, Data analytics and Blockchain for Securing Big Data and Cyber-physical Systems

A Missouri University of Science and Technology's Program Supported by a grant from the National Science Foundation

Objective: The primary objective of this NSF REU site is to train ten undergraduate students with excellent academic abilities with research potential in the area of cyber security, data analytics and blockchain with different applications in cloud and cyber-physical system. Preference will be given to the students with GPA at or above 3.20 from minority institutions (e.g. HBCUs), or institutions that do not offer MS degree programs in CS/ECE or related areas.

Highlights: (1) Well-qualified and experienced investigators in mentoring and training of REU students with research experience in the proposed areas of study; (2) students will be guided progressively from the statement of objectives to formulations of problems, literature surveys, research proposals, and design and implementation of CPS and Blockchain frameworks focused on cyber security, analytics and machine learning; (3) students will be provided a better feel for real-world applications by careful selection and design of projects; (4) placing emphasis on both the individual problem solving and designing skills as well as collaborative learning activities to learn the concepts and procedures involved in real problem solving as a team; (5) regular seminars by the faculty, PhD students, and external visitors from academia and industry to introduce new emerging ideas in cybersecurity and CPS; (6) organizing seminars on computer ethics, writing skills, engineering standards, interpersonal skills, conflict resolution, graduate opportunities in academia and research laboratories. (7) Funded PhD opportunities as well as careers in science and engineering; (8) access to well-equipped laboratories and resources available at Missouri S & T.

Location: Department of Computer Science, Missouri University of Science and Technology, Rolla, MO 65401

Time Duration: 10 weeks (20th May, 2025 to 26th July, 2025)

Stipend and Cost: The project will cover the reasonable travel, boarding, and food cost and will pay stipend of \$700 per week). No other cost will be paid for any other expenses occurred. Travel, boarding and food arrangements will be in the university dorms.

Project Director: Dr. Sanjay Madria, Curators' Distinguished Professor, Department of Computer Science, Missouri University of Science and Technology, MO 65401

madrias@umsystem.edu (write in the subject – NSF REU)

Only one PDF file including all the documents should be enclosed

**Submit a copy here: <https://etap.nsf.gov/award/2280/opportunity/2740>
And to: Dr. Sanjay Madria, Department of Computer Science, Missouri
University of Science and Technology, Rolla, MO 65401
Email: madrias@mst.edu**

Total Number of Positions - 10

Deadline to submit : 15th March, 2025

Deadline to Mail Acceptance Decision: 25th March, 2025

Final Acceptance Notice Due from Students: 30th March, 2025

Note that once you accept to be part of the program, you are required to complete 10 weeks of the program.

Some sample projects from last year are listed here:

https://web.mst.edu/~cswebdb/NSF_REU.html

Application Form

Name: (First, Middle, Last)	
Email Address for contact:	
Telephone number: (Please provide area code)	
Current Mailing address: (Street, City, State, ZIP)	
University/College:	
Major:	
Minor:	
Past Research Experience (if any, please describe projects)	
Current GPA (on a 4.0 scale): (Attach copies of Transcripts)	
Current Class Standing: (Seniors are not eligible if degree will be completed by Summer 2024)	
Race (Missouri S & T is an affirmative action/equal opportunity employer)	
Gender:	
Are you a United States citizen or Permanent Resident?	
Briefly describe your background and interests	
Brief Description of Knowledge of Programming, Cybersecurity, Machine Learning (if any, it is not required):	