# Modhuparna Manna

Assistant Professor,

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**Personal Data**

Born May 10, 1990 in Panvel, Maharashtra, India. Indian Citizen.

Current Address: 200 College Street, Apt #234, New Haven, CT 06510

**Education**

* Ph.D. in Computer Science (concentration in Cybersecurity, Cyber Forensics and Memory Forensics),

Louisiana State University, Baton Rouge, LA, USA, 2022.

Dissertation Title: "Using Memory Forensics to Analyze Programming Language Runtimes," Advisor: Golden G. Richard III.

* B.Tech. in Computer Science, Heritage Institute of Technology, Kolkata, WB, India, 2014.

**Areas of Expertise**

* Application security
* Memory forensics
* Reverse engineering
* Digital forensics
* Malware and vulnerability analysis
* Operating systems

**Current Affiliations and Duties**

* Assistant Professor, Cybersecurity, University of New Haven
* Ph.D., Computer Science and Engineering, LSU
* Affiliate, American Academy of Forensic Sciences (AAFS).
* Member, Women in Cybersecurity (WiCyS).
* Reviewer, Digital Investigation (Elsevier).

**Book Chapters**

* G. G. Richard III, A. Case, M. Manna, E. Hahne, A. Ali-Gombe, Digital Investigation and the Trojan Defense, Revisited. In: Ijeh AC, Curran K, editors. *Crime Science and Digital Forensics: A Holistic View*, Science Publishers, an imprint of CRC press (Taylor and Francis Group), Boca Raton, FL, USA. 2021.

**Refereed Publications**

* M. Manna, A. Case, A. Ali-Gombe, G. G. Richard III, " Memory Analysis of .NET and .Net Core Applications," *Proceedings of the 2022 Digital Forensics Research Conference (DFRWS),* July 2022.
* M. Manna, A. Case, A. Ali-Gombe, G. G. Richard III,” Modern macOS Userland Runtime Analysis”, *Forensic Science International: Digital Investigation* (38)C, 301221
* M. Manna, A. Case, G. G. Richard III, "Performing Mac Memory Analysis Using Objective-C and Swift Data Structures," *Proceedings of the 73rd Annual Meeting of the American Academy of Forensic Sciences (AAFS)*, February 2021, Virtual Meeting.
* A. Case, R. Maggio, M. Manna, G. G. Richard III, "Memory Analysis of macOS Page Queues," *Proceedings of the 2020 Digital Forensics Research Conference (DFRWS),* July 2020, Memphis, TN.

**Poster Presentations**

* M. Manna, “Memory Analysis of macOS Userland Runtime using Objective-C and Swift Data Structures*,*” *8th Annual Women in Cybersecurity (WiCyS) Conference*, - September 2021, Aurora, CO (Abstract Accepted)

**Work Experience**

* Software Developer, Capgemini, 2014-2016.

**Volunteer Experience**

* Committee Member, Indian Student Association Council, LSU (2019-2020)
* Student Volunteer, International Student Fall Orientation (2019)

**Workshops Attended**

* NETI 1A for effective teaching, Jan 2022
* NETI 1B for effective teaching, Jan 2022

**Awards/Certifications**

* Awarded Black Hat EWF scholarship, 2021.
* Awarded Women in Cybersecurity student scholarship, 2021.
* Awarded Women in Cybersecurity travel stipend, 2021.
* Awarded Women in Cybersecurity student scholarship, 2020.

(Virtual Conference)

* Received CompTIA Fundamentals+ certification, 2021.
* Received CompTIA Security+ certification, 2021.

**Teaching Positions**

**University of New Haven**

**Term Responsibility Title**

Fall 2021 Visiting Assistant Professor Intro Cyber Forensic Science

Fall 2021 Visiting Assistant Professor Reverse Engineering

Spring 2022 Assistant Professor Intro Cyber Forensic Science

Spring 2022 Assistant Professor Memory Forensics

Spring 2022 Assistant Professor Intro to Computer Security

**Term Responsibility Title**

Spring 2017 Teaching assistant Reverse Engineering and Malware Analysis

Fall 2017 Teaching assistant Operating Systems

Fall 2017 Lab assistant Programming in Java

Fall 2017 Lab assistant Introduction to MATLAB

Spring 2018 Teaching assistant Reverse Engineering and Malware Analysis

Summer 2020 Teaching assistant Data Structures and Algorithms

Fall 2020 Teaching assistant CS Teaching Methods

**Research Work**

Fall 2018 - Spring 2020

Research work funded by: "SaTC: CORE: Medium: Robust Memory Forensics Techniques for Userland Malware Analysis," National Science Foundation.

Fall 2020 - Spring 2021

Research work funded by: “Teach Computer Science: SEED Program,” US Department of Education.

Spring 2021 – Summer 2021

Designed Cybersecurity curriculum for high school students.

Primary instructor for Cybersecurity curriculum for high school teachers