Moitrayee Chatterjee, Ph.D.

Department of Computer Science, New Jersey City University

2039 John F Kennedy Boulevard, Karnoutsos Hall, Room 413 Jersey City, NJ 07305.

Google Scholar: https://scholar.google.com/citations?user=-MdmR04AAAAJ&hl=en&oi=ao

ORCID: https://orcid.org/0000-0002-7236-6912

I. RESEARCH INTEREST

- Cyber Security: Threats and Vulnerabilities in Software
- Cyber Security Education.
- Data Mining and Data Analytics.
- Machine and Deep Learning.

II. ACADEMIC EXPERIENCES

- Assistant Professor, Department of Computer Science, New Jersey City University. September 2020 – Present.
- Graduate Research Assistant, Department of Computer Science, Texas Tech University. August 2016 – August 2020.
- Graduate Teaching Assistant, Department of Computer Science, Texas Tech University. August 2016 – December 2018.

III. EDUCATION

PhD and MS	Computer Science	Texas Tech University, Lubbock, TX, USA	August 2020
Post Graduate Diploma in Business Administration	International Business	Symbiosis Centre for Distance Learning, Pune, India	August 2014
BS	Computer Science	West Bengal University of Technology, Kolkata, India	August 2008

IV. GRANTS

Title: CSTAT: Establishing Center for Safe and Trustworthy Autonomous Technologies.
Grant Number: NASA Research Announcement (NRA) NNH23ZDA001N.
Amount: $300,000. **Duration**: September 2024 - August 2026.
Role: Principal Investigator. **Grant** #80NSSC24K1755.
Description: In close collaboration with Dr. Russell Carpenter, Deputy Project Manager at NASA's Goddard Space Flight Center, the grant aims to establish the Centre for Safe and Trustworthy Autonomous Technologies (CSTAT), to empower students with expertise in Reinforcement Learning paradigm, essential for the development of autonomous systems, aligning student research under NASA's technology taxonomy, creating the foundation for intelligent and autonomous navigation solutions development at NJCU that will benefit NASA's future missions.

V.   PUBLICATIONS

- Accepted: Multi-Factory Disassembly Process Optimization Considering Worker Posture. IEEE Transactions on Computational Social Systems 2025.
  Authors: XiWang Guo, Senior Member, IEEE, Lin Chen, Liang Qi, Member, IEEE, JiaCun Wang, Senior Member, IEEE, ShuJin Qin, Member, IEEE, **Moitrayee Chatterjee**, Member, IEEE, and Qi Kang, Member, IEEE.
- Zhang, S., Ji, Y., Guo, X., Qin, S., Kang, Q. and **Chatterjee, M**., 2024, October. A Machine-learning and Discrete Multi-verse-optimizer-based Hybrid Method for Feature Selection. In 2024 International Conference on Networking, Sensing and Control (ICNSC) (pp. 1-6). IEEE.
- S. Abanilla, **M. Chatterjee**, and S. Dass, "Towards Privacy Preserving Financial Fraud Detection," 2023 International Conference on Machine Learning and Applications (ICMLA), Jacksonville, FL, USA, 2023, pp. 1723-1726, doi: 10.1109/ICMLA58977.2023.00261.
- J. Schnell, S. Dass, J. B. Abdo and **M. Chatterjee**, "Cultivating Inclusivity: A Journey Towards Democratizing Cybersecurity Education," 2023 IEEE International Conference on Teaching, Assessment and Learning for Engineering (TALE), Auckland, New Zealand, 2023, pp. 1-4, doi: 10.1109/TALE56641.2023.10398317.
- H. N. Nguyen, F. Abri, V. Pham, **M. Chatterjee**, A. S. Namin and T. Dang, "MalView: Interactive Visual Analytics for Comprehending Malware Behavior," in IEEE Access, 2022, doi: 10.1109/ACCESS.2022.3207782.
- Datta, P., **Chatterjee, M.,** 2022, July. Finding Your Feet In Cybersecurity: A Reddit Text Mining Approach. In 2022 IEEE 46th Annual Computers, Software, and Applications Conference (COMPSAC). IEEE Computer Society.
- Patel, N., Cancel, D., **Chatterjee, M.** and Rahman, M.S., 2021, December. Covid-19 digital Contact-tracing: a doorway to well-being or a backdoor to security vulnerabilities?. In 2021 IEEE International Conference on Big Data (Big Data) (pp. 4297-4302). IEEE.
- **Chatterjee, M.** and Namin, A.S., 2021. A fuzzy Dempster–Shafer classifier for detecting Web spams. Journal of Information Security and Applications, 59, p.102793.
- Nair, V., **Chatterjee, M.**, Tavakoli, N., Siami Namin, A. and Snoeyink, C., 2020. Fast Fourier Transformation for Optimizing Convolutional Neural Networks in Object Recognition. In *2020 19th IEEE International Conference On Machine Learning And Applications (ICMLA)*. IEEE.
- **Chatterjee, M**., Datta, P., Abri, F., Namin, A.S. and Jones, K.S., 2020, July. Cloud: A Platform to Launch Stealth Attacks. In *2020 IEEE 44th Annual Computers, Software, and Applications Conference (COMPSAC)* (pp. 1558-1563). IEEE.
- **Chatterjee, M**., Datta, P., Abri, F., Namin, A.S. and Jones, K.S., 2020, July. Abuse of the Cloud as an Attack Platform. In *2020 IEEE 44th Annual Computers, Software, and Applications Conference (COMPSAC)* (pp. 1091-1092). IEEE Computer Society.
- **Chatterjee, M**. and Namin, A.S., 2019, July. Detecting phishing websites through deep reinforcement learning. In *2019 IEEE 43rd Annual Computer Software and Applications Conference (COMPSAC)* (Vol. 2, pp. 227-232). IEEE.
- **Chatterjee, M**., Namin, A.S. and Datta, P., 2018, December. Evidence fusion for malicious bot detection in IoT. In *2018 IEEE International Conference on Big Data (Big Data)* (pp. 4545-4548). IEEE.
- Datta, P., Namin, A.S. and **Chatterjee, M.**, 2018, December. A survey of privacy concerns in wearable devices. In *2018 IEEE International Conference on Big Data (Big Data)* (pp. 4549-4553). IEEE.

- **Chatterjee, M**. and Namin, A.S., 2018, July. Detecting web spams using evidence theory. In *2018 IEEE 42nd annual computer software and applications conference (COMPSAC)* (Vol. 2, pp. 695-700). IEEE.

VI.   UNDERGRADUATE RESEARCH
- New Jersey Space Grant Consortium- a NASA Funded Program. Summer 2024.
- Center for Supply Chain and Maritime Logistics: NJCU-KMI Joint International Research Center. Spring 2024.
- STEM SUMMER RESEARCH INTERNSHIP, 2024.

Topics: Blockchain based authentication and cloud security.
Interns:
  i.   Xyanna Fuentes
  ii. Kelvin Nyambane
  iii. Franklin Ochoa
  iv. Bryant Yanez.

- Council on Undergraduate Research's (CUR) Advocacy Program- 2022-23 Scholars Transforming Through Research (STR): CUR Releases 2022 STR Program Participants | General News - News | Council on Undergraduate Research
  i.   Abderrahman Wahni.
  ii. Shouhaybou Mbow.

- STEM SUMMER RESEARCH INTERNSHIP, 2023.

Topics: Federated Machine Learning for User Data and Privacy Preservation.
Interns:
  i.   Stephanie Abanilla
  ii. Alexander Alvarez.
  iii. Hamad Soheim.

- STEM SUMMER RESEARCH INTERNSHIP, 2022.

Topics: Privacy and Security concerns in Metaverse, NFT and Drones.
Interns:
  i.   Tuhfa Maisara.
  ii. Sara Pagan.
  iii. Abderrahman Wahni.

- STEM SUMMER RESEARCH INTERNSHIP, 2021.

Topic: Security and Usability Analysis of Android Covid19 Contact Tracing Apps.
Interns:
  i.   Nishit Patel
  ii. David Cancel

VII. FACULTY ADVISOR
- Girls Who Code New Jersey City University College Loop

- New Jersey City University Software Development Club.

VIII.   INVITED TALK
- NJCU's partner STEKOM University, Indonesia.
  - Topic: *All Things about Cyber Security and Internet Safety.*

IX.   GRANTS INTERNAL TO NJCU:
- Provost Office Mini-Grant Professional Development Funds, AY 2021-22.
- Provost Office Mini-Grant Professional Development Funds, AY 2020-21.
- Dean's Office Professional Development Funds, AY 2020-21.

X.   PROFESSIONAL DEVELOPMENT
- National Funding Foundation:
  i. Professional Grant Proposal Writing Workshop. 2024.
- Council on Undergraduate Research:
  i. Grant Dialogues 2024.

XI.   CO-OP SUPERVISION
- Summer 2023.
  Title: Keystroke spy: a Python based keylogger.
- Spring 2023.
  Title: *Classification of re-packaged Android malware*
- Fall 2022.
  Title: *Insincere Reddit comments classification*
- Fall 2020.
  Title: *Cyber Attack trend analysis during Covid-19 pandemic.*

XII.   INDEPENDENT STUDY:
Term: Summer 2021
    Student: Michael Onyeije
    Topic: Discrete Structure II (CS 203).

XIII.   TEACHING
Assistant Professor, New Jersey City University

Semester	Courses	Level
Fall 2020- Till date	Computer Science I	100
	Computer Science II	100
	Data Structure	200
	Discrete Structures I	200
	Programming Languages	300
	Introduction to Cryptography	400
	Artificial Intelligence	400
	Introduction to Linux/Unix	400

Teaching Assistant, Texas Tech University

Semester	Course	Level
Fall 2016	Software Engineering I	Undergraduate
Spring 2017	Advanced Algorithms	Graduate
Summer I 2017	Computer Science II (C programming)	Undergraduate
Summer II 2017	Data Structures	Undergraduate
Fall 2017	Computer Science I (Python programming)	Undergraduate
Spring 2018	Software Architecture	Graduate
Summer I 2018	Computer Science I (Python programming)	Undergraduate
Summer II 2018	Computer Science II (C programming)	Undergraduate
Fall 2018	Computer Science II (C programming)	Undergraduate

XIV. MENTORING AND ADVISING
- PhD Dissertation Co-advisor:
  Student: Bokolo, Biodoumoye.
  Institution: Department of Computer Science, Sam Houston State University.
  Dissertation Topic: Mobile Digital and Cyber Forensics.
- AnitaB.org 2022 Q4 1:1 Mentor.
  o Mentee: Juliet Orr
- Faculty Mentor: *OnPace* Mentoring Program:
  o 2021- Present
- MSEIP Grant Civic Engagement Activity.

XV. MEDIA
- *Boffins find that over nine out of ten 'ethical' hackers are being a bit naughty when it comes to cloud services*. By Thomas Claburn.
  https://www.theregister.com/2020/06/17/cloud_services_hacking/
- *Even Ethical Hackers Abuse Cloud Services*. By Akshaya Asokan.
  https://www.databreachtoday.com/even-ethical-hackers-abuse-cloud-services-a-14469
- *How and Why Hackers Use the Cloud to Launch Stealth Attacks.* By Amanda Bowman. https://today.ttu.edu/posts/2020/07/Stories/hackers-use-cloud-to-launch-attacks

XVI. NJCU LIAISON:
- Computing Alliance of Hispanic-Serving Institutions (CAHSI).
- New Jersey Space Grant Consortium (NJSGC).

XVII. INSTITUTIONAL ACTIVITIES
- MS in CS Program Development at New Jersey City University
  i. Working team and Advanced level Course Developer.
- Course Proposals

    i. CS TBD-9: Introduction to Social Web Theories and Applications.
    ii. CS TBD-6: Secure Software Engineering
    iii. CS TBD-19: Software Privacy and Security.
    iv. CS TBD-18: Introduction to Deep Learning and Applications.

- NJCU CS Department Senate Representative.
- NJCU CS Department Social Media Advocate.
- NJCU Senate member for Committee of Instructional Technology.
- NJCU CAS C&I Committee 2022-2023.
- NJCU CAS C&I Committee Chair 2023 -2024.
- Texas Tech University ABET Accreditation Review Process, 2017-2018.

XVIII. PROFESSIONAL ACTIVITIES

- Workshop Organizer
  i. DSML 2024: The 2nd IEEE International Workshop on Data Science & Machine Learning for Cybersecurity, IoT & Digital Forensics. DSML – COMPSAC 2024 (computer.org).
  ii. The 1st IEEE International Workshop on Data Science & Machine Learning for Cybersecurity, IoT & Digital Forensics. https://ieeecompsac.computer.org/2023/dsml-workshop/
  iii. The 1st IEEE International Workshop on Integrating Diversity, Equity, and Inclusion in Cybersecurity Research (IDEI-CR 2022). IDEI-CR 2022 – COMPSAC 2022 (computer.org)
- Program Committee Member
  i. COMPSAC 2021 (IEEE Signature Conference on Computers, Software, and Applications).
  ii. BigData'20 BigEACPS-2020.
- Reviewer Role:
  i. Forensic Science International: Digital Investigation. 2021- present.
  ii. International Journal of Applied Sciences. 2021- present.
  iii. NSF IUSE EDU 2024.
  iv. IEEE Access. 2022- present.
  v. NASA MUREP PBI/HBCU Data Science Equity, Access and Priority for Research and Education (DEAP) 2022.

XIX. OUTREACH

- Mentor at Women in STEM.
- Mentor at Big Brothers Big Sisters of Essex, Hudson, and Union Counties.
- Promoting CS education to High school students at Explore Engineering Summer Camp, Texas Tech University. Lubbock, TX. June 2019.
- Workshop on Digital Forensics A 3-day workshop organized and presented by the faculties of Texas Tech University and Sandia National Laboratories. May 2018, Lubbock, TX.

- Tutoring under privileged students through the social initiative Outreach program by Cognizant Technology Solutions, Kolkata, India. August 2011- December 2011.

XX. AWARDS
- CRA-WP Career Mentoring Workshop, 2023. Full travel scholarship.
- The Women in CyberSecurity (WiCyS) faculty scholarship, 2023.
- Grace Hopper Celebration (GHC) Faculty Scholarship, 2022.
- NJCU Inclusive Teaching Faculty Fellowship, AY 2021-2022.
- CRA-W Grad Cohort for Women, 2018.
- Applause from Cognizant Technology Solutions BFS vertical, 2015.

XXI. PROFESSIONAL COMMUNITY ENGAGEMENTS
- Women in CyberSecurity (WiCyS)
- IEEE
- Academic Impressions
- Quality Matters
- Blackboard | Anthology
- Kahoot!
- Course Hero
- HireEd

XXII. CORPORATE EXPERIENCE

Organization	Position	Timeline	Location
CogDev Malaysia Sdn. Bhd.	Systems Analyst	August 2015 – August 2016	Kuala Lumpur, Malaysia
Cognizant Technology Solutions Pvt Ltd	Associate	Feb 2009 - August 2015	Kolkata, India

XXIII. REFERENCES
- Dr. Prerit Datta.
  Faculty Homepage: Prerit Datta | School of Science (tcnj.edu)
  Email: dattap@tcnj.edu
- Dr. Van Vung Pham.
  Faculty Homepage: Van Vung Pham (shsu.edu)
  Email: vung.pham@shsu.edu
- Dr. M. Shahinoor Rahman.
  Faculty Homepage: Md Shahinoor Rahman - Public Health (lsuhsc.edu)
  Email: mrahm8@lsuhsc.edu
- Dr. Haim Baruh.
  Faculty Homepage: Haim Baruh | Mechanical and Aerospace Engineering (rutgers.edu)
  Email: baruh@rutgers.edu
- Dr. Anthony Lau.
  Faculty Homepage: Anthony Lau, Ph.D. | Assistant Professor (tcnj.edu)

Email: LauA@tcnj.edu
- Dr. Russell Carpenter.
NESC Academy Biography: Dr. Russell Carpenter - NESC Academy Biography - NASA
Email: russell.carpenter@nasa.gov