

Jyotirmay Chauhan

CONTACT	jchauhn.github.io	linkedin.com/in/jyotirmay-chauhan/
EDUCATION	University of Illinois Chicago Doctor of Philosophy, Computer Science (GPA: 3.5)	2023 – Current
	Colgate University Bachelor of Arts, Computer Science (GPA: 3.7)	2019 – 2023
TECHNICAL SKILLS	<ul style="list-style-type: none">• Languages: Python, Javascript, C, ObjC, Java, R, Kotlin L^AT_EX• Tools: Docker, Wireshark, Burp Suite, mitmproxy, MATLAB, Android Studio, SQL, Nginx• Libraries: pandas, numpy, scipy, json, keras, pytorch, Jupyter, networkx, Tesseract, subprocess, Git, Unix	
AWARDS	<ul style="list-style-type: none">• Laura Sanchis Award for Excellence in Research (2023)• Dean's Award with Distinction (2020, 2021)• Funded by Holden Endowment Fund (2020, 2021)• National Talent Search (NTSE) annual scholarship from Government of India (2016)	
TEACHING EXPERIENCE	<ul style="list-style-type: none">• CS468 Network Security TA (2024,2025)• CS252 Data structures TA (2023)• COSC208 Introduction to Computer Networks(2022)	
PAPERS & POSTERS	<ul style="list-style-type: none">• <i>J. Chauhan</i> , K. Solomos, M. Ali, J. Polakis <i>Exploring Privacy Leakage and Data Disclosure Violations in the MacOS Application Ecosystem</i> (under review)• <i>J. Chauhan</i> , A.Gember-Jacobson, <i>Summarizing Network Configuration Patterns</i> Network Verification Workshop (Usenix NSDI 2023)• <i>J. Chauhan</i> , D.Lee, E.Yu, A.Gember-Jacobson, <i>Detecting Configuration Errors Via Pattern Mining</i> Network Verification Workshop (IEEE INCP NetVerify 2021)• (Poster) S.Alam, <i>J. Chauhan</i>, Z.Liu, A.Gember-Jacobson, <i>What ITS got wrong: Learning from Network History</i>, Colgate Summer Research Poster Session, 2022.• (Poster) <i>J. Chauhan</i> , D.Lee , E.Yu, A.Gember-Jacobson, <i>Detecting Network Errors: Router Configuration Mining</i>, Colgate Summer Research Poster Session, 2021.• (Poster) <i>J. Chauhan</i> , X.Jiang, T.Potter, A.Gember-Jacobson, <i>Practical bug detection in software implementations of routing protocols</i>, Colgate Summer Research Poster Session, 2020.	
ACADEMIC RESEARCH	Detect personal data collection by MacOS apps	June 2024 – Dec 2025
	<ul style="list-style-type: none">• Developed app analysis pipeline using binary Reverse Engineering and runtime memory modification via Frida & lldb to tract user identifiers.• Large scale study of over 1500 MacOS applications. ≈ 70% exfiltrate Location data, Name, unique Device IDs without permission. (link)	
	Stealing secure tokens from hardware keys	Jan 2024 – June 2024
	<ul style="list-style-type: none">• Conducted comprehensive security analysis of YubiKey based authentication in cross platform Electron Apps. Identified crucial origin spoofing attack leading to key compromise under certain conditions. (link)	

PROJECTS

Pattern Mining in Networks

May 2021 – May 2023

- Improved 200 (x) times open-source Contrast Set Learning algorithm STUCCO for parsing CISCO and ARUBA config files. Created explainability heuristic for misconfiguration rule sets. ([link](#))

Protocol Verification

May 2020 – August 2020

- Orchestrated Docker containers running OSPF, BGP, and FR routing protocols on AWS alongside automated packet capture and regex-based parsing.

Asset Price Prediction ML model

- Developed OSINT-driven price prediction LSTM model in pytorch; 93% validation accuracy for month-end predictions. Improved robustness to feature removal (ask, bid prices) achieving 91% accuracy.

Secure File Transfer Protocol

- Built multithreaded AES-GCM encrypted upload and download clients secure against eavesdropping, modification, deletion, and replay using pyCryptodome, socket libraries.