

Lu Malloy

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SUMMARY

Strategic and Analytical PhD Student in Computer Science with expertise in Usable Security and Human-Computer Interaction (HCI) principles. Skilled in designing and analyzing mixed-method user studies and leveraging data analytics to optimize processes and support strategic decisions. Proficient in SQL, Excel, Tableau, Power Apps, and Power BI, with proven experience translating complex research findings into actionable, data-driven insights that align with business goals.

PUBLICATIONS

Qin Yang*, **Lu Malloy***, Joshua Lee, Xiaohan Chang, Meisam Mohammady, Doowon Kim, Yuan Hong. **What the Eyes See, the LLMs Miss: Exploiting Human Perception for Adversarial Text Attacks**. *35th USENIX Security Symposium (USENIX Security '26)*, Baltimore, MD, USA, August 12–14, 2026. (*co-first authors) [arXiv]

EDUCATION

University of Tennessee

Knoxville, TN

Ph.D. in Computer Science; GPA: 3.93/4.0

Expected Dec 2027

- Research focuses on cybersecurity, computer networks, and usable security.

Northeastern University

Boston, MA

M.S. in Engineering – Information Systems (STEM credentialed); GPA: 3.95/4.0

Dec 2021

- Relevant Coursework: Data Science Engineering with Python; Algorithms; High-Performance Parallel Machine Learning

Indiana University

Bloomington, IN

B.S. in Business – Business Economics & Public Policy; Co-Major: Technology Management

May 2018

RESEARCH EXPERIENCE

Manuscripts & Proposals

Social-Level Security in Human–AI Software Teams (multi-PI research proposal)

- Led the design of Aim 3, studying how adversarial AI teammates can erode trust, cohesion, and decision quality in mixed-expertise software development teams through controlled web-development tasks.

Current Research Projects

Phishing Website Accessibility & Usability

- Running an empirical study on how colorblind and non-colorblind users perceive and interact with phishing versus legitimate websites, providing data-driven recommendations for accessible and secure visual cues.

Software Bill of Materials (SBoM) Analysis

- Investigating the effectiveness of SBoM generation tools for improving software supply chain transparency by collecting open-source project datasets and evaluating dependency coverage and component traceability.

WORK EXPERIENCE

University of Tennessee

Knoxville, TN

Graduate Teaching Assistant

Course: Human Factors in Cybersecurity

Aug 2026 – Present

- Lead selected lectures on human-centered cybersecurity topics, including usable security, privacy, authentication, phishing, and secure software development.
- Mentor student research projects that apply large language models (LLMs) to real-world cybersecurity and human-factor challenges.
- Support course instruction, student discussions, assignments, and project evaluation.

Course: Software Security

Jan 2026 – May 2026

- Assisted in teaching software security concepts and supported student learning through hands-on exercises and assessments.

Course: Introduction to Programming with Java

Aug 2025 – Dec 2025

- Guided students in computational thinking, structured programming, and problem-solving using Java.
- Tutored students on core programming concepts including conditional statements, loop-based iteration, and data structures like arrays.
- Supported student learning by providing hands-on exercises and assessments.

Course: Circuits and Electro-Mechanical Components

Jan 2025 – May 2025

- Assisted in teaching circuits and electronic fundamentals.
- Guided students in hands-on labs and projects, including designing, constructing, and testing circuits using Arduino.
- Helped students develop skills in the analysis, design, and testing of circuits, sensors, and microcontrollers.

Course: Computer Organization

Jan 2023 – Dec 2024

- Assisted in teaching computer organization fundamentals, including computer components, digital logic, and processing elements.
- Guided students in understanding CPU communication methods, processor and memory architecture, and RISC-V instruction set architecture.
- Introduced performance-enhancing techniques like pipelining, cache systems, and parallel processing.

Northeastern University

Boston, MA

Graduate Teaching Assistant – Course: Data Science Engineering with Python

Sept 2021 – May 2022

- Delivered assessments and tutorials on data cleaning, restructuring, analytics best practices, and traditional machine learning for graduate students.
- Tutored 100+ graduate students in data analysis and Python scripting; aided professor with course content evaluation and design.
- Mentored students on individual assignments and group projects, helping improve grades by at least 10%.

Boehringer Ingelheim

Ridgefield, CT

IT Enabling Functions eDiscovery Co-op

Jan 2021 – July 2021

- Developed mobile and tablet versions of an information-integrated application using Power Apps; managed user engagement analytics and provided guidelines for user interaction.
- Built a scalable database of ETL processes using MongoDB and SSIS; ingested data from multiple sources using SQL and Power BI to create data views.
- Prepared question lists and arranged meetings with 50 different data source system leaders to collect information on data history, migration timelines, and Legal Hold status.
- Designed the new SLA Matrix Mind Map and updated Non-Custodial, Custodial, and M365 Mind Maps; wrote review guidelines and formulated reminders for monthly review.

ACADEMIC PROJECTS

Bitcoin Price Analysis – Parallel Machine Learning

Nov 2021 – Dec 2021

- Cleaned unstructured data with 5M rows; processed timestamps, applied front-fill for null values, and calculated group averages.
- Tested Logistic Regression (56% accuracy) and Linearized SVM (61% accuracy).
- Examined Decision Tree, Extra Trees, and Random Forest algorithms with CPU parallelization on a Discovery cluster (1 node, 20 CPUs, 4 GB memory).
- Deployed parallel machine learning with Multiprocessing Pool, Joblib, and Pathos; compared speedup across three parallelization methods.

Statistical Analysis of US Wildfire

Nov 2020 – Dec 2020

- Conducted exploratory data analysis to identify strong and weak correlations among variables; preprocessed data by removing weak-correlation fields and NA values.
- Implemented Decision Tree and Random Forest models to predict wildfire causes; improved accuracy to 98% when narrowed to a single US state.

Lost and Found Platform

Nov 2020 – Dec 2020

- Designed a Lost and Found platform with role-based functions for users and admins.
- Developed controller layer with Spring MVC; used Hibernate for DAO layer and database mapping.
- Built UI with EasyUI and JavaScript; implemented AJAX via jQuery and Spring MVC to reduce server load.

LEADERSHIP & OUTREACH

PhD Tea-Time	Knoxville, TN
<i>Organizer & Volunteer</i>	<i>Jan 2023 – May 2024</i>
• Initiated and co-led sessions to foster networking, peer support, and relaxation among PhD students within the department. • Coordinated refreshments and created a welcoming environment encouraging informal discussions and mental breaks. • Facilitated faculty-student interaction by inviting professors, helping bridge gaps between students and faculty.	

Global Business Women Organization	Bloomington, IN
<i>Advisor, Marketing Department</i>	<i>Jan 2018 – May 2019</i>
• Helped build an active and diverse student community; facilitated networking and presentation opportunities for 40+ aspiring female leaders. • Planned and organized events including Multicultural Social Night, GBW Workshop, and GBW Information Section, with 400+ total attendees. • Managed social media account, allocated tasks, and arranged materials.	

SKILLS

Programming: Python, SQL, MySQL, PostgreSQL, R, Java, Power Apps, SAP ERP, Jupyter Notebook, Visio, Stata, Parallel Machine Learning
Analytics: Excel, Power BI, Tableau, Google Analytics, SPSS Modeler, SQL Server, SSIS, Hive, IBM DB2, Microsoft Access, ETL, A/B Testing, Google Charts
UI/UX Design: Qualtrics, HTML, CSS, JavaScript, Angular, Axure RP, Figma, Moqups, Balsamiq Mockups
Languages: Chinese (Native), English (Fluent), Japanese (Conversational), Italian (CEFR A2)

AWARDS & CERTIFICATIONS

USENIX Security Student Travel Grant	2026
IEEE S&P Student Travel Grant	2023
IBM Data Warehouse Engineer Professional Certificate	2022
Northeastern University College of Engineering Leadership Award	2022
Northeastern University College of Engineering Certificate of Excellence	2019