

LUKE KURLANDSKI

✉ luke.kurlandski@gmail.com 🌐 lukekurlandski.com 🔗 @lkurlandski in @luke-kurlandski 🎓 Luke Kurlandski

RESEARCH SUMMARY

I spent most of my doctoral education solving problems in the malware domain using machine learning. Some things I worked on include representation/end-to-end learning, adversarial examples/robustness, and explainability/interpretability — all applied to malware. Moving forward, I want to expand into other areas of security, including LLM/agentic security and software/vulnerability analysis. In short, I am interested in research at the intersection of security and artificial intelligence. I am looking for research scientist positions and, eventually, a long and successful career in industry research.

EDUCATION

Doctor of Philosophy (Ph.D.) @Rochester Institute of Technology (RIT) Aug. 2022 - May 2027

- Department: Computing and Information Science
- Advised by: Dr. Matthew Wright & Dr. Yin Pan

Bachelor of Science (B.S.) @The College of New Jersey (TCNJ) Aug. 2018 - May 2022

- Department: Computer Science
- Minors: Mathematics, Physics

PUBLICATIONS

Under Review

- L. Kurlandski, D. Krisiloff, S. Coull & M. Wright, “Don’t Just Eat the EXE: Raw-Binary Malware Classifiers Need Structure and Scale,” Under review, 2026.
- C. Xie, L. Kurlandski, P. Miller & N. McLaughlin, “DAUGL: Cross-Platform Malware Detection via Unsupervised Global and Local Domain Alignment,” Under review, 2026.

Conference Proceedings

- L. Kurlandski, H. Berger, Y. Pan & M. Wright, “Beyond Raw Bytes: Towards Large Malware Language Models,” *Network and Distributed System Security Symposium (NDSS)*, 2026.
- L. Kurlandski & M. Bloodgood, “Impact of Stop Sets on Stopping Active Learning for Text Classification,” *IEEE International Conference on Semantic Computing (ICSC)*, 2022.
- D. Stolz, J. Strobel, M. Leven, L. Kurlandski, H. Abourahma & D. McGee, “One-Step Fabrication of Surface Relief Dot-Matrix Holograms Using Supramolecular Azopolymer Thin Films,” *SPIE Practical Holography: Displays, Materials, and Applications*, 2021.
- J. Strobel, D. Stolz, M. Leven, L. Kurlandski & D. McGee, “Nanoimprint Lithography for the Replication of Optical Microstructures on Azopolymer Thin Films,” *IEEE Conference on Lasers and Electro-Optics (CLEO)*, 2021.

Journal Articles

- J. Strobel, D. Stolz, M. Leven, M. Van Soelen, L. Kurlandski, H. Abourahma & D. McGee, “Optical Microstructure Fabrication Using Structured Polarized Illumination,” *Optics Express*, 2022.

Workshop Papers

- I. Ryan, L. Kurlandski & N. Mathews, “Towards Moving Target Defense for IoT Malware Detection,” *Workshop on Software Engineering Research and Practices for the IoT (SERP4IoT)*, 2026.
- L. Kurlandski, R. Mosli, Y. Pan, S. Thianphan & M. Wright, “Do Fear the REAPIR: Adversarial Malware from API Replacement,” *Workshop on Rethinking Malware Analysis (WoRMA)*, 2025.

Poster Sessions

- L. Kurlandski, H. Berger, Y. Pan & M. Wright, “Pretrained Executable Language Models (ELMs) Excel at Malware Understanding,” *USENIX Security Symposium (Poster)*, 2024.
- L. Kurlandski, N. Mathews, N. Hopper & M. Wright, “Modeling Stepping-Stone Flows Using Stochastic Random Walks and Black Box Neural Networks,” *Western New York Image and Signal Processing Workshop (WNYISPW)*, 2024.

- L. Kurlandski, Y. Pan & M. Wright, “From Bytes to Insights: A New Era of Malware Detection,” *Western New York Image and Signal Processing Workshop (WNYISPW)*, 2023.
- L. Kurlandski, Y. Pan & M. Wright, “An Adversarial Malware Evasion Attack Using Machine Translation,” *AI@RIT Summit*, 2022.
- L. Kurlandski, “Evaluating ML Recommender Systems without Interactions Data,” *ACM Technical Symposium on Computer Science Education (SIGCSE)*, 2021.

EXPERIENCE

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| Machine Learning Security Group, RIT | <i>Aug. 2022 – May 2027</i> |
| <i>Graduate Research Assistant</i> ; advised by Dr. Matthew Wright & Dr. Yin Pan. | |
| - Researched adversarial examples, neural architecture design, and explainable machine learning for malware. | |
| Cybersecurity Division, CACI International | <i>Jun. 2021 – Aug. 2021</i> |
| <i>Research Intern</i> ; advised by Anand Dinikar & Edward Phelps | |
| - Developed deepfake audio detectors and contributed to forensic analysis of manipulated PDF documents. | |
| Learning Curve Group, TCNJ | <i>Feb. 2021 – May 2022</i> |
| <i>Undergraduate Researcher</i> ; advised by Dr. Michael Bloodgood. | |
| - Researched active learning and label-efficient machine learning for natural language processing. | |
| Collective Intelligence Group, TCNJ | <i>Jun. 2020 – Feb. 2021</i> |
| <i>Undergraduate Research Assistant</i> ; advised by Dr. Monisha Pulimood. | |
| - Built a recommendation system to help researchers find under-appreciated publications (NSF REU). | |
| Photonics Group, TCNJ | <i>Dec. 2018 – Feb. 2020</i> |
| <i>Undergraduate Researcher</i> ; advised by Dr. David McGee. | |
| - Wrote software to control lab hardware (lasers, motors, etc.) for optical microstructure fabrication. | |

AWARDS & HONORS

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| Provost’s Outstanding Graduate Student Teaching Award, RIT | <i>Apr. 2025</i> |
| - Recognized primarily for teaching Advanced Malware Forensics, as well as TA work and mentoring. | |
| NSF Graduate Research Fellowship (GRFP) | <i>Apr. 2024</i> |
| - Three years of NSF support for graduate research in science and engineering. | |
| NDSEG Fellowship | <i>Mar. 2024</i> |
| - Three years of Department of Defense support for graduate research; declined in favor of the GRFP. | |
| AI Seed Fund Grant, RIT | <i>Jan. 2024</i> |
| - Wrote the \$5,000 internal grant proposal that launched the research behind an NDSS 2026 paper. | |
| Goldberg-Neff Scholarship, TCNJ | <i>May 2022</i> |
| - Awarded to graduating seniors going on to graduate research. | |
| Phi Beta Kappa (honor society), TCNJ | <i>May 2022</i> |
| - Inducted into the national honor society for the liberal arts and sciences. | |
| Upsilon Pi Epsilon (honor society), TCNJ | <i>May 2022</i> |
| - Inducted into the international honor society for the computing disciplines. | |
| Department of Computer Science First-Year Award, TCNJ | <i>May 2019</i> |
| - Awarded by the computer science department to an outstanding first-year student. | |
| Merit Scholarship, TCNJ | <i>Aug. 2018 – May 2022</i> |
| - Four-year scholarship awarded to incoming students on academic merit. | |
| Dean’s List, TCNJ | <i>Aug. 2018 – May 2022</i> |
| - Maintained a GPA above 3.5 in all eight undergraduate semesters. | |

TEACHING & LEADERSHIP

Instructor, RIT

Jan. 2024 – May 2024

- Taught a graduate research seminar on Advanced Malware Forensics as sole instructor; overhauled its materials.

Graduate Teaching Assistant, RIT

Aug. 2023 – Dec. 2023

- Assisted with a graduate research seminar on Human Factors in Security and Privacy.

Project Mentor, RIT

Jan. 2023 – May 2027

- Mentored 19 B.S. and M.S. students through 7 independent studies and 3 capstone projects.

Founder, Kappa Delta Rho Nu Gamma Chapter, TCNJ

Jan. 2019 – May 2022

- Established the Nu Gamma Chapter of the Kappa Delta Rho fraternity at TCNJ.

GED Instructor, Oasis – A Haven for Women and Children, Paterson, NJ

Nov. 2017 – May 2018

- Taught math, science, and English to adults preparing for the General Educational Development (GED) exam.