Daniel Olszewski

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Education

Ph.D. in **Computer Science** — Defending February 2026
University of Florida, Gainesville, FL — *Graduate May 2026*
Advisor: Dr. Patrick Traynor

B.A. in **Mathematics, Computer Science,** and **Data Science** — May 2019
Carroll College, Helena, MT

Publications

1. **D. Olszewski**, A. Lu, A. Crowder, N. Bennett, S. Layton, S. H. V. Bhupathiraju, T. Tucker, S. Kalgutkar, H. Ver Helst, C. Stillman, K. Butler, S. Rampazzi, and P. Traynor. Reproducibility in Applied Security Conferences: An 11-Year Review on Artifacts and Evaluation Committees. In *Proceedings of the ACM Conference on Reproducibility (REP)*, 2025. **Best Paper Award.**

2. **D. Olszewski**, T. Tucker, K. Butler, and P. Traynor. SoK: Towards a Unified Approach of Applied Replicability for Computer Security. In *Proceedings of the USENIX Security Conference (Security)*, 2025.
(Acceptance Rate: 17.1%)

3. C. Gibson, **D. Olszewski**, N. Brigham, A. Crowder, K. Butler, P. Traynor, E. Redmiles, and T. Kohno. Analyzing the AI Nudification Application Ecosystem. In *Proceedings of the USENIX Security Conference (Security)*, 2025. **Distinguished Paper Runner Up**. **Internet Defense Runner-Up Award**.
(Acceptance Rate: 17.1%)

4. S. Layton, T. De Andrade, **D. Olszewski**, K. Warren, K. Butler, C. Gates, and P. Traynor. Every breath you don't take: Deepfake speech detection using breath. *Digital Threats: Research and Practice (DTRAP)*, 2025.

5. M. Pasternak, K. Warren, **D. Olszewski**, P. Traynor, and K. Butler. Characterizing the Impact of Audio Deepfakes in the Presence of Cochlear Implants. In *Proceedings of the Network and Distributed System Security Symposium (NDSS)*, 2025.
(Acceptance Rate: 16.1%)

6. K. Warren, T. Tucker, A. Crowder, **D. Olszewski**, A. Lu, C. Federle, M. Pasternak, S. Layton, K. Butler, C. Gates, and P. Traynor. "Better Be Computer or I'm Dumb": A Large-Scale Evaluation of Humans as Audio Deepfake Detectors. In *Proceedings ACM Conference on Computer and Communications Security (CCS)*, 2024. **Distinguished Paper Award**.
(Acceptance Rate: 18%)

7. A. Crowder, **D. Olszewski**, P. Traynor, and K. Butler. I Can Show You the World (of Censorship): Extracting Insights from Censorship Measurement Data Using Statistical Techniques. In *Proceedings of the Annual Computer Security Applications Conference (ACSAC)*, 2024.
(Acceptance Rate: 21.8%)

8. S. Layton, T. Tucker, **D. Olszewski**, K. Warren, K. Butler, and P. Traynor. SoK: The Good, The Bad, and The Unbalanced: Measuring Structural Limitations of Deepfake Media Datasets. In *Proceedings of USENIX Security Symposium (Security)*, 2024.
(Acceptance Rate: 17.6%)

9. **D. Olszewski**, A. Lu, C. Stillman, K. Warren, C. Kitroser, A. Pascual, D. Ukirde, K. Butler, P. Traynor. "Get in Researchers; We're Measuring Reproducibility": A Reproducibility Study of Machine Learning Papers in Tier 1 Security Conferences. In *Proceedings ACM Conference on Computer and Communications Security (CCS)*, 2023.
(Acceptance Rate: 19.1%)

10. **D. Olszewski**, W. Zhu, S. Sathyanarayana, K. Butler, and P. Traynor. HallMonitor: A Framework for Identifying Network Policy Violations in Software. In *Proceedings IEEE Conference on Communication and Network Security (CNS)*, 2022.
(Acceptance Rate: 35%)

11. E. Rudd, D. Krisiloff, **D. Olszewski**, E. Raff, and J. Holt. Efficient Malware Analysis Using Metric Embeddings. In *Proceedings Conference on Applied Machine Learning for Information Security (CAMLIS)*, 2022.

12. C. Peeters, C. Patton, I. Sherman, **D. Olszewski**, T. Shrimpton, and P. Traynor. SMS OTP Security (SOS): Hardening SMS-Based Two Factor Authentication. In *Proceedings ACM Asia Conference on Computer and Communications Security (AsiaCCS)*, 2022.
(Acceptance Rate: 18%)

13. Z. Yang, **D. Olszewski**, C. He, G. Pintea, J. Lian, T. Chou, R. Chen, and B. Shtylla. Machine learning and statistical prediction of patient quality-of-life after prostate radiation therapy. *Computers in Biology and Medicine*, 2021.

Professional Experience

Lead Graduate Student, *Florida Institute of Cybersecurity Research* 2023–Present
University of Florida

- Guided Ph.D. students in developing independent research projects and advancing technical writing and presentation skills.
- Collaborated with faculty to ensure consistent mentorship, research alignment, and academic support for graduate students.
- Managed research activities and expenditures under NSF-funded projects, ensuring compliance with funding guidelines and research milestones.

Graduate Research Assistant, *Florida Institute of Cybersecurity Research* 2019–Present
University of Florida

- Reproduce over 580 artifacts collected from 2,000 papers.
- Analyze the ecosystem that enables Generative AI for Sexual Abuse.
- Conduct the largest Human-Generative AI audio study with over 1,200 participants.
- Evaluated 700 machine learning research publications to identify the state of computational reproducibility in Tier 1 security conferences and recommend improvements to publication standards.
- Used signal processing and statistical techniques to detect Deepfakes and evaluated defense robustness by building an adaptive adversary.

- Mined 13 million tweets in a collaborative project to analyze how disinformation propagates differently between English and Spanish speakers.
- Explored how Gaussian perturbations affect the robustness and fidelity of model explainability in computer vision prediction tasks.
- Developed mobile and web applications to secure SMS two–factor authentication protocols and conducted a user study demonstrating a viable, secure OTP authentication scheme.

Senior Research Scientist, *Harbor Experts* February 2024–Present
Baltimore, MD

- Serve as a technical consultant for expert witness cases, collaborating with legal teams and attorneys on cybersecurity and software-related matters.
- Authored detailed legal and technical reports to support expert testimony and case preparation.
- Developed and evaluated technical arguments for patent validation and infringement analysis.

Representation Experiment Environment Engineer, SPHERE June 2025–August 2025
Information Security Institute, University of Southern California

- Deployed and maintained a large-scale testbed of security artifacts to support open and reproducible research.
- Facilitated public release and documentation of datasets, software, and experimental environments for community use.
- Coordinated with NSF program officers to communicate project milestones, research impact, and dissemination efforts.

Machine Learning Research Intern FireEye May 2020–August 2020
Reston, VA

- Developed Siamese network to learn an embedding of the EMBER dataset for multi-objective learning.
- Implemented black-box adversarial attacks to evaluate model robustness.
- Presented technical findings to management and cross-functional teams.

Cloud Systems Analyst State of Montana January 2019–August 2019
Helena, MT

- Completed system updates and content development for over 14,000 users.
- Automated and visualized data collection through Python scripting.

Applied Mathematics Researcher: Project Manager June 2018–August 2018
Institute of Pure and Applied Mathematics, University of California Los Angeles
Sponsor: University of North Carolina, Lineberger Comprehensive Cancer Center, Chapel Hill, NC

- Constructed deep convolutional autoencoder networks for biomedical image analysis.
- Transferred network models to predict cancer patient symptom outcomes from radiation therapy.

Undergraduate Summer Researcher, Rochester Institute of Technology June 2017–August 2017
Department of Mathematics
Rochester, NY

- Simulated complex biological processes in cardiac cells to investigate cardiac arrest dynamics.
- Created stable numerical solutions to partial differential equations modeling cardiac control systems.

Undergraduate Summer Researcher, Carroll College — June 2016–August 2016
Department of Chemistry
Helena, MT

- Developed computational distillation techniques for organic substrates.
- Presented findings at undergraduate research symposium.

Patents

- **Identifying Deepfake Audio Using Breath Detection and Measurement**
  Inventors: PG Traynor, KS Warren, K Butler, S Layton, **D Olszewski**, C Gates
  Patent Number: US Patent Application 19/083,551
- **Detecting Audio Deepfakes Through Acoustic Prosodic Modeling**
  Inventors: PG Traynor, KS Warren, K Butler, S Layton, **D Olszewski**, C Gates
  Patent Number: US Patent Application 18/305,971
- **Detecting Deepfake Audio Using Turbulence**
  Inventors: PG Traynor, K Butler, **D Olszewski**, LE Blue, M Pasternak
  Patent Number: US Patent Application 18/748,590
- **Method, Apparatus, and Computer Program Product for Secure Two-Factor Authentication**
  Inventors: PG Traynor, C Peeters, C Patton, I Sherman, **D Olszewski**, T. Shrimpton
  Patent Number: US Patent 12,003,502

Invited Talks

- **Analyzing the Nudification Ecosystem**, CSAW (Cyber Security Awareness Week) Applied Research Competition, November 2025.
  (Acceptance Rate: 5.8%)
- **Towards Identifying Reproducible Outcomes for the Security Community**, ACM CCS Doctoral Symposium, October 2025.
  (Accpetance Rate: 26%)
- **Humans vs The Computer Interfaces: The Challenge of Separating Deepfakes/Bots from People.** Montana State University, September 2024.
- **Humans vs The Computer Interfaces: The Challenge of Separating Deepfakes/Bots from People.** Carroll College, September 2024.
- **"Well it Worked on My Computer": Reproducibility in Computer Security**, Keynote, CSET (Cybersecurity Experimentation and Test), August 2024.

Funding

- Authored 50% of a highly competitive NSF SaTC grant on reproducibility in computer security, outlining 10 initiatives requesting $1.2M over 3 years; successfully awarded $600K to complete 7 initiatives.

Teaching and Mentoring

- Lead Graduate Student, *Florida Institute of Cybersecurity Research*, 2024-2025.
- Guest Lecture, *University of Florida*, Computer and Network Security, 2024-2025.

- Lead of Security Reading Group, *Systems and Network Security*, 2021-2023.
- Teaching Assistant, *Statistics and Probability (MA207)*, 2017-2018.
- Teaching Assistant, *Modern Applications of Discrete Mathematics (MA 328)*, 2017-2019.
- Lab Assistant, *General Chemistry, (GA 101-102)*, 2016-2018.

Service

Graduate (University of Florida, 2019 - Present)

- USENIX Security Program Committee Member, 2026 – Reviewed submissions and contributed to conference organization and paper selection.
- ACM CCS Program Committee Member, 2025 – Evaluated papers, coordinated with chairs, and helped shape conference program.
- CCS AEC 2025 – Assisted with paper evaluation and committee discussions for the annual authors' event.
- Guest Reviewer, S&P Magazine, 2024 – Provided detailed peer reviews of submitted manuscripts in computer security and privacy.
- Guest Reviewer, ACM REP, 2025 – Reviewed research papers for technical accuracy and clarity.
- Guest Reviewer, S&P, 2024 – Served as ad hoc reviewer for conference submissions.
- CCS AEC 2023 – Participated in paper evaluation and feedback sessions for authors.

Undergraduate (Carroll College, 2015–2019)

- Student Body President – Led student government and represented the undergraduate community in campus decisions.
- Presidential Search Committee – Participated in selecting college leadership.
- Curriculum Committee – Provided input on course offerings and academic program development.
- Budget, Resources, and Planning Committee – Assisted in reviewing and planning campus budget allocations.
- Faculty Search Student Member – Contributed student perspective to faculty hiring decisions.

Honors and Awards

- Best Paper Award, ACM REP 2025.
- Internet Defense Runner-Up, USENIX Security 2025.
- Distinguished Paper, ACM CCS 2024.
- Gartner Grant Fellowship, 2022-2024.