

Scott T. Seidenberger

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Data Science and Analytics Institute
University of Oklahoma
Devon Energy Hall, 110 W. Boyd Street, Norman, OK

Education

The University of Oklahoma, Norman OK

ABD, exp. May 2026

Ph.D. Data Science & Analytics

Topics: Decentralized Systems Security, Generative AI, Web3

Chair: Dr. Anindya Maiti

The Pennsylvania State University, State College PA

2020

M.P.S. Data Science & Analytics

Topics: NLU/NLP, Machine Learning

Cornell University, Ithaca NY

2016

B.S. with Honors, Industrial & Labor Relations

Topics: Computational Social Science, Statistics & Information Science

Publications

Conference Papers

1. **Seidenberger, S.**, & Maiti, A. (2025). From Big Data to Valued Data: A Dataset Value Taxonomy for AI-Native Empirical Research. To appear, 8th AAAI/ACM Conference on AI, Ethics, and Society (**AIES**). dx.doi.org/10.2139/ssrn.5363597
2. **Seidenberger, S.**, & Maiti, A. (2025). Initial Evidence of Pervasive Reconnaissance Targeting Ethereum Node Infrastructure. 7th ACM International Symposium on Blockchain and Secure Critical Infrastructure (**BSCI, co-located with ACM ASIACCS**). [arXiv:2411.14623](https://arxiv.org/abs/2411.14623).
3. Trinh K., **Seidenberger S.**, Wijewickrama R., Jadliwala M., Maiti A. (2025). A Picture is Worth a Thousand Prompts? Efficacy of Iterative Human-Driven Prompt Refinement in Image Regeneration Tasks. International Joint Conference on Artificial Intelligence (**IJCAI**). [arXiv:2504.20340](https://arxiv.org/abs/2504.20340).
4. **Seidenberger, S.**, Pursell, N., & Maiti, A. (2025). MagnetDB: A Longitudinal Torrent Discovery Dataset with IMDb-Matched Movies and TV Shows. Nineteenth International AAAI Conference on Web and Social Media (**ICWSM**). <https://doi.org/10.1609/icwsm.v19i1.35959>.
5. **Seidenberger, S.** & Maiti, A. (2025). EtherBee: A Global Dataset of Ethereum Node Performance Measurements Coupled with HoneyPot Interactions and Full Network Sessions. Seventh IEEE International Conference on Blockchain and Cryptocurrency (**ICBC**). [10.1109/ICBC64466.2025.11114523](https://doi.org/10.1109/ICBC64466.2025.11114523).
6. **Seidenberger, S.**, Ajisegiri, O., Pursell, N., Raja, F., & Maiti, A. (2025). Why You've Got Mail: Evaluating Inbox Privacy Implications of Email Marketing Practices in Online Apps and Services. Fifteenth ACM Conference on Data and Application Security and Privacy (**CODASPY**) <https://doi.org/10.1145/3714393.3726516>.
7. **Seidenberger, S.**, & Collins, C. J. (2018). Can government agencies compete with for profit companies for software talent? Examining the role of employer branding and government attitudes in attracting student applicants. *Academy of Management Meetings*, Chicago. [doi:10.5465/AMBPP.2018.13596symposium](https://doi.org/10.5465/AMBPP.2018.13596symposium)

Journal Articles

8. Dornick, C., Kumar, A., **Seidenberger, S.**, Seidle, E., & Mukherjee, P. (2021). Analysis of patterns and trends in COVID-19 research. *Procedia Computer Science*, 185, 302–310 (Proceedings of the Complex Adaptive Systems Conference, CASC 2021, Malvern PA). <https://doi.org/10.1016/j.procs.2021.05.032>

Review Articles & Book Reviews

9. **Seidenberger, S.** (2016). A new role for human resource managers: Social engineering defense. *Cornell HR Review*. doi:1813/73018
10. **Seidenberger, S. T.** (2018). Why Air Forces Fail: The Anatomy of Defeat. *Air & Space Power Journal*, 32(1), 125-127. Available: link.gale.com/apps/doc/A531710168/AONE?u=anon_ee24c06d
11. **Seidenberger, S. T.** (2018). Sidewinder: Creative Missile Development at China Lake. *Air & Space Power Journal*, 32(4), 103-105. Available: link.gale.com/apps/doc/A571023068/AONE?u=anon_14487f7a

Military Publications

12. **Seidenberger, S. T.** (2022). Airborne Cooperative EW Integrated Reprogrammable Exchange (ACEWIRE). *Classified*. Led to \$100k award to test system, initial tests successful and under active development. <https://www.acc.af.mil/News/Article-Display/Article/2992446/>
13. 3-1 AWACS (2022). *Classified*. First Author of Chapter on Electromagnetic Warfare.
14. 3-3 AWACS (2022). *Controlled Unclassified*. Second Author of Chapter on Mission Planning Air Operations.
15. **Seidenberger, S. T.** (2018) Space Weather Effects on Satellite-based Airborne Communications in USCENTCOM. *Classified*.

Preprints and Manuscripts

16. **Seidenberger, S.**, Pursell, N., & Maiti, A. (2026). Challenging the Exclusivity Model: How Streaming Fragmentation Fuels Early Leaks, Larger Torrent Swarms, and User Risk.
17. **Seidenberger, S.** (2025). Dissertation: Quantitative Measurement and Empirical Modeling of Privacy, Security, and Resilience in Protocol Networks. Data Science and Analytics Institute, University of Oklahoma, Norman. *In progress, exp. Nov 2025*
18. **Seidenberger, S.**, Trinh K., & Maiti, A. (2025). Node Infrastructure First: Measuring Attacks, Modeling Cascades, and Rapid Recovery Tactics. *Planned submission to Distributed Ledger Technologies: Research and Practice (DLT) August 2025*.
19. Trinh K., **Seidenberger, S.**, & Maiti, A. (2025). Promptly Yours? A Human Subject Study on Prompt Inference in AI-Generated Art. *Planned submission to ACM Transactions on the Web June 2025*.
20. **Seidenberger, S.**, Beret, M., Wijewickrama, R., Jadliwala, M., & Maiti, A. (2024). NinjaDoH: A Censorship-Resistant Moving Target DoH Server Using Hyperscalers and IPNS. arXiv preprint arXiv:2411.02805. *Under review*.
21. **Seidenberger, S.**, Sokol, A., & Maiti, A. (2023). Stake Your Claim: Zero-Trust Validator Deployment Leveraging NFTs and Smart Contracts in Proof-of-Stake Networks. arXiv preprint arXiv:2308.01158.

Research Grants

1. **[Co-PI] Ethereum Foundation Academic Grant (FY24-1546):** Change Analysis and Network Anomaly Recognition sYstem (CANARY)
 - Funds to create a realtime surveillance and early warning system for the Ethereum peer-to-peer (P2P) network. Utilizing advanced time series changepoint detection algorithms, CANARY will detect anomalies and potential security threats to the decentralized network.
 - *Award Amount:* \$24,000
2. **[Co-PI] Ethereum Foundation Academic Grant (FY24-1547):** Secure Ethereum Anonymity & Defense Relay via Advanced Global Overlay Networking (SEADRAGON)

- Funds creating a lightweight, adaptable, purpose-built virtual private network (VPN), obscuring node public IP addresses from potential attackers, providing a significant increase in privacy. Furthermore, the creation of a resilient overlay network will allow nodes to maintain operation and mitigate network layer attacks.
 - *Award Amount:* \$17,000
3. **[Co-PI] Storj, Inc. Grant (2024):** Rapid Activation via Decentralized Snapshots (RADS)
- Funds project to enhance the security and liveness of Ethereum node operators by leveraging web3 decentralized storage to rapidly deliver blockchain snapshots to minimize time-to-live (TTL) for new or recovering nodes.
 - *Award Amount:* \$4,000

Other Grants & Awards

4. **OU College of Engineering Travel Award (2025):**
- *Award Amount:* \$500
5. **Ethereum Foundation Education Sponsorship Award (2025):**
- Hacklahoma 2025. Funded the first inaugural "Built on Ethereum Prize."
 - Delivered web3 workshop and acted as mentor on behalf of the EF to help 300+ students in building dApps and blockchain based applications.
 - *Award Amount:* \$4,000
6. **Ethereum DevCon Academic Fellowship (2024):**
- Competitively selected for the largest, globally recognized Ethereum developer and community conference as an academic fellow.
 - *Award Amount:* \$3,000

Teaching

Blockchains and Cryptocurrencies (CS 5833)	Spring 2025
Co-Instructor	
– Developed new curriculum covering smart-contract platforms and dApps	
– Led the course capstone project	
Cyber Attacks and Defenses (CS 5970)	Spring 2025
Teaching Assistant	
– Created lectures & labs on AI for cybersecurity	
– Arranged guest speakers and professional-development events	
Financial Engineering (DSA 5303)	Summer 2024–2025
Teaching Assistant	
– Led two online sections (\approx 30 M.S. students)	
– Produced YouTube tutorial on containerized environments	
Advanced Signals Intelligence — U.S. Air Force	2020–2022
Course Director / Lead Instructor	
– Instructed 1,000+ officers and enlisted aviators via lectures, workshops, simulations, and live airborne capstones	
– Certified instructor (NRO FADE program)	
Instructor Air Battle Manager — U.S. Air Force	2019–2022
– One-on-one instruction for hundreds of rated officers	
– Large-format lectures on strategy, air combat, and aircraft ops	

Invited Talks

- "Charting the Future: GenAI & HR"** Oct 2025
 Bloomberg, New York, NY
 CAHRS Working Group speaker.
ilr.cornell.edu/cahrs/events/
- "Crafting Cutting-Edge Applications for a Decentralized Web"** Feb 2025
 Hacklahoma 2025, Norman OK
 Delivered a lecture and workshop and served as invited mentor and judge for Oklahoma's largest hackathon.
2025.hacklahoma.org/builtonethereum
- "Beyond Horizon Range Engagements"** Sep 2022
 Joint Requirements Council Off-site, Boeing Virtual Warfare Center, St Louis MO
 Audience: **Vice Chairman of the Joint Chiefs; Commander USINDOPACOM; Commander NORAD; Vice Chief of Naval Operations; Air Force Vice Chief of Staff; DoD Chief Information Officer**
- "Integrating a New Generation of Warriors"** May 2015
 TEDx, Ithaca NY
youtube.com/watch?v=eDXRZkyw7_k

Professional Activities

Peer Reviewing

- AAAI/ACM Conference on AI, Ethics, and Society (AIES) 2025
- Conference on Neural Information Processing Systems (NeurIPS) 2024–2025
- IEEE Symposium on Security & Privacy (IEEE S&P Oakland) 2025
- Conference on Artificial Intelligence and Statistics (AISTATS) 2025
- International Conference on Distributed Computing Systems (ICDCS) 2025
- The ACM Web Conference (WWW) 2025
- Pervasive & Mobile Computing Journal (PMC) 2025
- Air & Space Power Journal (ASPJ) 2017–2019

Departmental Committees

- CS Faculty Hiring Committee — tenure-track search in Cybersecurity 2025

Student Mentoring

- Natalie Hill '25 — M.S. Capstone: *AI Politician: Fine-tuned Models for Political Discourse*
- Noah Pursell '26 — B.S. Research: Mentored in quant methods leading to co-authorship of two publications
- Marc Beret '24 — M.S. Thesis: *Evaluation of Moving-Target DoH Server Detection Using ML Models*
- Tristan Bony '24 — M.S. Thesis: *Impact of External Factors on Ethereum Network Stability*

Industry Experience

- Nethermind**, Washington DC Summer 2025
 PhD Research Fellow
- Led technical due-diligence on a Bitcoin restaking platform for a country-level ETF issuer
 - Evaluated zero-knowledge proofs to reduce bandwidth on Ethereum's P2P layer
- Epoch Forge**, Washington DC 2023 – 2025
 Co-founder & Managing Director

epochforge.io

- Led a digital-infrastructure provider specializing in Web3 node operations
- Secured \$10M+ of customer funds via public blockchain validators
- Successfully exited after serving two enterprise customers

Advanced Strategic Insight, Washington DC

2023

Defense Analyst

- Led research on human-machine teaming; produced a company white paper on autonomous-agent integration with air operations
- Lead analyst for an SBIR Phase II proposal (USSF capability enhancement)
- Authored technical briefs for DARPA, USAF Rapid Capabilities Office, and Space Systems Command

Military Service - Captain, United States Air Force

Instructor Air Battle Manager, Mission Commander, E-3 AWACS

Clearance: TS/SCI (2016-2024) Inactive

Assignments

2020-2023, Wing Chief Electromagnetic Warfare Officer, 552 Operations Support Squadron, Tinker AFB, OK
2021, Electronic Warfare Coordinator Course, 479 Operations Support Squadron, NAS Pensacola, FL
2020, Air Battle Manager Instructor upgrade, 966 Airborne Air Control Squadron, Tinker AFB, OK
2019-2020, Chief of Squadron Innovation, 964 Airborne Air Control Squadron, Tinker AFB, OK
2019, Electronic Combat Officer training, 966 Airborne Air Control Squadron, Tinker AFB, OK
2018-2019, Air Weapons Officer, 964 Airborne Air Control Squadron, Tinker AFB, OK
2018, Student, Air Weapons Officer training, 966 Airborne Air Control Squadron, Tinker AFB, OK
2017, Survival Evasion Resistance Escape (SERE), Fairchild AFB, WA
2016-2017, Student, Undergraduate Air Battle Manager Training, 337 Air Control Squadron, Tyndall AFB, FL

Selected Appointments

2021-2022 Joint Mission Commander, NIMBLE FIRE, Joint Staff J8
2021-2022 Lead E-3 Planner, NEPTUNE HAWK, Pacific Air Forces
2020-2022 Principal Operations and Technical Advisor, AI Integration & Directed Energy, Air Force Research Labs
<https://www.afrl.af.mil/News/Article/2929406/>
<https://www.afrl.af.mil/News/Article-Display/Article/2675775/>
2019 Liaison Officer to Joint Interagency Task Force South. Planned air support to counter-narcotics operations.
<https://www.southcom.mil/News/PressReleases/Article/2225606>

Flight Information

Aircraft: E3B/C/G AWACS
Rating: Air Battle Manager
Flight Hours: 800+ (300+ Combat)
Certified Mission Commander

Selected Awards & Decorations

2023 Wing Company Grade Officer of the Year
2021 Group Electronic Combat Officer of the Year
2021 Group Company Grade Officer of the Month (Deployed)
2017 Top Graduate, Air Battle Manager Training

Air Medal with 1 Oak Leaf Cluster
Inherent Resolve Campaign Medal with 1 Service Star
Air and Space Commendation Medal
Meritorious Unit Award with 1 Oak Leaf Cluster
Combat Readiness Medal
Air and Space Expeditionary Service Ribbon, Gold Border with 1 Oak Leaf Cluster
Global War on Terrorism Service Medal
National Defense Service Medal

References

Details and contact information available upon request.

Anindya Maiti, PhD Assistant Professor, Computer Science and Data Science, University of Oklahoma

Christopher Collins, PhD Professor of Human Resource Studies, ILR, Cornell University

Colonel Keven Coyle Chief, USFK Commander's Initiatives Group

February 17, 2026