

Shlok Gilda

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Education

- 2021 – 2025 **Ph.D. Computer Science, University of Florida.**
Research Interests: *Open-Source Software Supply Chain Security; Misinformation Analysis; Natural Language Processing; Artificial Intelligence*
Advisor: *Dr. Bonnie Dorr*
GPA: 3.9/4.0
- 2021 – 2022 **M.Sc. Computer Science, University of Florida.**
GPA: 3.9/4.0
- 2014 – 2018 **B.E. Computer Engineering, University of Pune.**
Thesis title: *User Privacy in Consumer IAM.*
Advisor: *Dr. Geetanjali Kale*
GPA: 3.5/4.0

Research Publications

Conference Proceedings

- 1 L. Giovanini, **S. Gilda**, M. Silva, *et al.*, “People Still Care About Facts: Twitter Users Engage More with Factual Discourse than Misinformation,” in *Security and Privacy in Social Networks and Big Data*, Luiz Giovanini and Shlok Gilda are co-first authors. **Best Paper Award.**, Singapore: Springer Nature Singapore, 2023, pp. 3–22, ISBN: 978-981-99-5177-2.
- 2 **S. Gilda**, T. Jain, and A. Dhalla, “None Shall Pass: A Blockchain-Based Federated Identity Management System,” in *Inventive Computation and Information Technologies*, Singapore: Springer Nature Singapore, 2022, pp. 329–352, ISBN: 978-981-19-7402-1.
- 3 **S. Gilda**, L. Giovanini, M. Silva, and D. Oliveira, “Predicting Different Types of Subtle Toxicity in Unhealthy Online Conversations,” 12th International Conference on Emerging Ubiquitous Systems and Pervasive Networks / 11th International Conference on Current and Future Trends of Information and Communication Technologies in Healthcare, vol. 198, 2021, pp. 360–366. [DOI](https://doi.org/10.1016/j.procs.2021.12.254): <https://doi.org/10.1016/j.procs.2021.12.254>.
- 4 **S. Gilda** and M. Mehrotra, “Blockchain for Student Data Privacy and Consent,” in *2018 International Conference on Computer Communication and Informatics (ICCCI)*, 2018, pp. 1–5. [DOI](https://doi.org/10.1109/ICCCI.2018.8441445): [10.1109/ICCCI.2018.8441445](https://doi.org/10.1109/ICCCI.2018.8441445).
- 5 **S. Gilda**, “Source Code Classification using Neural Networks,” in *2017 14th International Joint Conference on Computer Science and Software Engineering (JCSSE)*, 2017, pp. 1–6. [DOI](https://doi.org/10.1109/JCSSE.2017.8025917): [10.1109/JCSSE.2017.8025917](https://doi.org/10.1109/JCSSE.2017.8025917).
- 6 **S. Gilda**, H. Zafar, C. Soni, and K. Waghurdekar, “Smart Music Player Integrating Facial Emotion Recognition and Music Mood Recommendation,” in *2017 International Conference on Wireless Communications, Signal Processing and Networking (WiSPNET)*, 2017, pp. 154–158. [DOI](https://doi.org/10.1109/WiSPNET.2017.8299738): [10.1109/WiSPNET.2017.8299738](https://doi.org/10.1109/WiSPNET.2017.8299738).

US Patents

- 1 P. Gokhale, **S. Gilda**, S. Malik, S. H. Rizvi, and R. Poulouse, “Identity Attribute Confidence Scoring while Certifying Authorization Claims.” [URL](https://uspto.report/patent/app/20200322342): <https://uspto.report/patent/app/20200322342>.

Under Review

- 1 T. Christensen, M. Silva, D. Capecchi, **S. Gilda**, Q. Yang, and D. Oliveira, *SoK: The Use of Social, Behavioral, and Economic Theories in Human Factors Phishing Research*.
- 2 **S. Gilda**, L. Giovanini, M. Silva, and D. Oliveira, *Political Neutrality and Balanced Co-Authorship Gender Leads to Less Gender Bias: An NLP Analysis of Canadian News Media*.
- 3 Q. Yang, T. Christensen, **S. Gilda**, J. Fernandes, and D. Oliveira, *Are Fact-Checking Tools Reliable? An Evaluation of Google Fact Check*.

In-Progress

- 1 **S. Gilda**, M. Botacin, and D. Oliveira, *Temporal Evolution of Security Concerns in OSS: Investigating the Role of Contributor Characteristics and Behaviors*.
- 2 **S. Gilda** and D. Oliveira, *SoK: Impact of Gender Differences on Open-Source Software Ecosystem*.

Employment History

- Jan. 2024 – ···· **AI Resident**, SandboxAQ.
 * Spearheading a project to apply Machine Learning for distinguishing between encryption algorithms, enhancing data security and optimizing cryptographic inventory management.
- Jan. 2021 – ···· **Graduate Research Assistant**, University of Florida.
 * Working under the supervision of Dr. Bonnie Dorr on multiple projects, ranging from misinformation (social media and fact-checking platforms) and phishing analysis to open-source software supply chain security. Previously advised by Dr. Daniela Oliveira.
- Jun. 2023 – Aug. 2023 **Research Intern**, Accenture Security Labs.
 * Led a data science initiative at Accenture, analyzing 100,000+ commits and 500 users across 20 OSS repositories using TensorFlow, Neo4J, and Python to identify malicious developers.
 * Engineered a Python-based data pipeline for Git/GitHub metadata, employing graph-based models and clustering algorithms (K-means, DBSCAN) for enhanced data analysis and community detection.
 * Formulated and validated a machine learning ruleset for user classification, presenting key cybersecurity insights to senior leadership, demonstrating potential industry applications.
- Apr. 2020 – Dec. 2020 **Software Engineer**, Moxie.xyz.
 * Successfully enhanced Moxie's user sign-up and onboarding experience by integrating OAuth 2.0 with Facebook and Instagram, streamlining access and increasing user engagement.
 * Achieved a remarkable 99.9% data availability at Moxie by managing extensive user data with Apache Cassandra, ensuring robust data handling capabilities for thousands of daily user interactions.
 * Revolutionized media processing on the Moxie platform by developing advanced video recording and compression features using FFMPEG, achieving a 40% increase in efficiency and significantly improving user experience.

Employment History (continued)

Jun. 2019 – Apr. 2020

📌 **Software Engineer, Pepo.com.**

* Boosted user engagement at Pepo by 35% by developing a personalized feed algorithm that delivered tailored content, significantly enhancing user satisfaction and platform stickiness.

* Enhanced the user onboarding experience by streamlining sign-up and authentication processes through seamless OAuth 2.0 integration with major social platforms, facilitating easier access and increased user growth.

* Elevated app responsiveness and user interaction at Pepo by implementing WebSockets, leading to a 25% improvement in real-time communication efficiency, enriching the user experience.

* Leveraged Apache Cassandra for robust data storage solutions and integrated Google Firebase Cloud Messaging (FCM) for precise in-app and push notifications, driving user engagement and improving key platform metrics.

Jun. 2018 – Aug. 2020

📌 **Software Engineer, Ost.com.**

* Enabled secure and efficient blockchain transactions on the OST Platform by developing a REST API with NodeJS and Ruby on Rails, seamlessly integrating Ethereum blockchain to support over 1,000 transactions/second.

* Enhanced the platform's security and scalability by implementing peer-to-peer (P2P) technologies and data encryption, ensuring the safe handling of thousands of consumer-app tokenization transactions.

* Achieved exceptional system throughput of over 500 transactions per second by adeptly utilizing technologies such as RabbitMQ, Memcached, Redis, Elasticsearch, and AWS DynamoDB, facilitating robust multi-chain support and high-performance operations.

* Significantly improved platform scalability and user experience by innovating with database sharding and smart contract-based user account recovery methods, leading to a 40% increase in overall system performance.

Jun. 2017 – Jun. 2018

📌 **Research Intern, IBM India Software Labs.**

* Played a pivotal role at IBM in co-developing a Hyperledger Fabric-based IAM system, incorporating zero-knowledge authentication and advanced cryptographic schemes like ECC and HMAC-SHA512, substantially enhancing the security of user identity verification processes.

* Elevated data security and user sovereignty by implementing cutting-edge access control measures, including split-key cryptography and proxy re-encryption, enabling secure and authorized data access by identity authorities without compromising user control.

* Streamlined the process of secure identity claims transfer and efficient blockchain data retrieval by integrating and customizing OpenID Connect within the Websphere Liberty Server, enhancing system interoperability and user convenience.

* Co-authored a US patent for an innovative method of calculating identity attribute trust scores, making a significant contribution to the project's intellectual property and setting a new standard in identity verification technology.

Service

2024 📌 **Program Committee, LREC-COLING.**

📌 **Artifact Evaluation Program Committee, Usenix Security.**

📌 **Program Committee, Eighth Workshop on Online Abuse and Harms (WOAH).**

2023 📌 **Program Committee, Seventh Workshop on Online Abuse and Harms (WOAH).**

Service (continued)

- 2022
 - 📌 **Program Committee**, Usenix SOUPS Posters.
 - 📌 **Program Committee**, Computing Conference.
 - 📌 **Student Volunteer**, ACM CSCW.
 - 📌 **Program Committee**, Sixth Workshop on Online Abuse and Harms (WOAH).
 - 📌 **Program Committee**, Usenix SOUPS Posters.
 - 📌 **Reviewer**, IEEE Open Journal of the Computer Society.
 - 📌 **Program Committee**, 2nd International Conference on Emerging Trends and Innovations in ICT.
- 2019
 - 📌 **Reviewer**, IEEE Access.

Skills

- Coding
 - 📌 Python, JavaScript, Node.JS, C, C++, SQL, \LaTeX , ...
- Databases
 - 📌 MySQL, DynamoDB, Neo4J, Cassandra.
- ML Frameworks
 - 📌 Tensorflow, Scikit-Learn, spaCy

Miscellaneous Experience

Awards and Achievements

- 2023
 - 📌 **Best Paper Award**, SocialSec 2023.
- 2022
 - 📌 **Student Conferenceship**, ACSAC 2022.
- 2021
 - 📌 **Student Travel Grant**, IEEE S&P 2021.
 - 📌 **Student Grant**, Usenix Enigma 2021.

Certification

- 2018
 - 📌 **Deep Learning Specialization**. Awarded by Coursera.org.
 - 📌 **Sequence Models**. Awarded by Coursera.org.
 - 📌 **Convolutional Neural Networks**. Awarded by Coursera.org.
 - 📌 **Improving Deep Neural Networks: Hyperparameter Tuning, Regularization and Optimization**. Awarded by Coursera.org.
 - 📌 **Neural Networks and Deep Learning**. Awarded by Coursera.org.
 - 📌 **Structuring Machine Learning Projects**. Awarded by Coursera.org.

References

Available on Request