Adriana Sejfia

sejfia@usc.edu
https://asejfia.github.io
https://github.com/asejfia
http://www.linkedin.com/in/adriana-sejfia/

Summary

I am a Computer Science PhD candidate. My main research lies in the area of software engineering. Specifically, I am interested in helping software developers with their security tasks, by leveraging past patches of security issues. I employ program analysis and machine learning techniques to generate actionable security- related insights for developers.

Education

August 2018 – *ongoing*
University of Southern California
Ph.D. in Computer Science
Advisor: *Nenad Medvidović*

August 2016 – May 2018
Rochester Institute of Technology
M.Sc. in Software Engineering
Advisor: *Mehdi Mirakhorli*
College Delegate

September 2011 – May 2015
Rochester Institute of Technology in Kosovo
B.S in Information Technology
Class Valedictorian

Research Experience

August 2018 – *ongoing*
University of Southern California
Research Assistant
- Automated cleaning of datasets comprised of patches using program analysis
- Pattern-based vulnerability detection using program analysis and machine learning
- Understanding architectural vulnerabilities

May 2022 – September 2022
Google
Research Intern
- Static analysis for verifying privacy attributes

May 2021 – August 2021
GitHub Inc., Office of the CTO (OCTO)
Research Intern
- Analyzed malicious npm packages and devised learning models for their automated detection

January 2017 – May 2018
Rochester Institute of Technology
Research Assistant
- Researched tracing vulnerabilities across different revisions of a software
- Analyzed vulnerabilities stemming from architectural vs. implementation mistakes

Research Experience (continued)

January 2013 – May 2013

Rochester Institute of Technology in Kosovo
Research Assistant

- Conducted interviews with relevant stakeholders and performed statistical analysis

Research Publications

Journal Articles

1. Santos, J. C., Tarrit, K., **Sejfia**, **A.**, Mirakhorli, M., & Galster, M. (2019). An empirical study of tactical vulnerabilities. *Journal of Systems and Software, 149*, 263–284.

Conference Proceedings

1. **Sejfia**, **A.**, & Schäfer, M. (2022). Practical automated detection of malicious npm packages. In *International Conference on Software Engineering (ICSE)* ***to appear***.
2. **Sejfia**, **A.**, Zhao, Y., & Medvidović, N. (2021). Identifying casualty changes in software patches. In *Proceedings of the 29th ACM Joint Meeting on European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE)* (pp. 304–315).
3. **Sejfia**, **A.**, & Medvidović, N. (2020). Strategies for pattern-based detection of architecturally-relevant software vulnerabilities. In *2020 IEEE International Conference on Software Architecture (ICSA)* (pp. 92–102). IEEE.
4. Zhao, Y., Chen, J., **Sejfia**, **A.**, Schmitt Laser, M., Zhang, J., Sarro, F., … Medvidovic, N. (2020). Fruiter: A framework for evaluating ui test reuse. In *Proceedings of the 28th ACM Joint Meeting on European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE)* (pp. 1190–1201).
5. Santos, J. C., **Sejfia**, **A.**, Corrello, T., Gadenkanahalli, S., & Mirakhorli, M. (2019). Achilles' heel of plug-and-play software architectures: A grounded theory based approach. In *Proceedings of the 2019 27th ACM Joint Meeting on European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE)* (pp. 671–682).
6. **Sejfia**, **A.** (2019). A pilot study on architecture and vulnerabilities: Lessons learned. In *2019 IEEE/ACM 2nd International Workshop on Establishing the Community-Wide Infrastructure for Architecture-Based Software Engineering (ecase)* (pp. 42–47). IEEE.
7. Santos, J. C., Peruma, A., Mirakhorli, M., Galstery, M., Vidal, J. V., & **Sejfia**, **A.** (2017). Understanding software vulnerabilities related to architectural security tactics: An empirical investigation of chromium, php and thunderbird. In *2017 IEEE International Conference on Software Architecture (ICSA)* (pp. 69–78). IEEE.

Awards

2020
- **Google PhD Fellowship Recipient**, Software Engineering and Programming Technologies category
- **USC Travel Award**, funds to cover participation at ICSA
- **CRA-WP Grad Cohort for Women**, selected for fully-funded participation

2019
- **Grace Hopper Attendance Scholarship by USC**, selected by the CS department

Awards (continued)

2017 **Best Paper Award at ICSA**, awarded to the paper entitled "Understanding software vulnerabilities related to architectural security tactics: An empirical investigation of Chromium, PHP and Thunderbird"

2016 **TLP Scholarship by USAID and Kosovo government**, Fully funded my master's studies in the US

Skills

Programming and technologies — Java, Python, C/C++, Souffle, R, Bash, jQuery, MacOS, Unix, Windows,

Languages — Albanian (native), English (full proficiency), Spanish (elementary proficiency)

Professional Service

2022 Reviewer for SCORED Workshop 2022

Artifact reviewer for ICSE 2022

Leadership and Volunteer Experience

2019 – *ongoing* **USC Women and gender minorities in Computing Club (WinCC) Board Member**, help in organizing monthly seminars

2015 – 2016 **Girls in Coding Kosova Founder and Board Member**, led and obtained funding for projects

2011-2016 **Karl Popper/British Parliamentary Debate Judge**, served in local (Kosovo) and international competitions

2015-2016 **Karl Popper Debate Coach**, led the team from Peje

References

Available on Request