

# Adriana Sejfia

✉ sejfia@usc.edu

🌐 <https://softarch.usc.edu/~adriana>

🐙 <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
- May 2022 – September 2022 📌 Google  
**Research Intern**
  - Understanding architectural vulnerabilities
  - 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., **Sejfić, A.**, Mirakhorli, M., & Galster, M. (2019). An empirical study of tactical vulnerabilities. *Journal of Systems and Software*, 149, 263–284.



### Conference Proceedings

- 1 **Sejfić, A.**, & Schäfer, M. (2022). Practical automated detection of malicious npm packages. In *International Conference on Software Engineering (ICSE)* **to appear**.
- 2 **Sejfić, 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 **Sejfić, 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., **Sejfić, 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., **Sejfić, 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 **Sejfić, 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., & **Sejfić, 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

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|------|---|
| 2020 | 📌 <b>Google PhD Fellowship Recipient</b> , Software Engineering and Programming Technologies category |
|      | 📌 <b>USC Travel Award</b> , funds to cover participation at ICSA                                      |
|      | 📌 <b>CRA-WP Grad Cohort for Women</b> , selected for fully-funded participation                       |
| 2019 | 📌 <b>Grace Hopper Attendance Scholarship by USC</b> , 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