

## Aravind Machiry

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CONTACT INFORMATION	University of California, Santa Barbara Department of Computer Science Santa Barbara, CA, 93106-5110	678-907-7128 <a href="mailto:machiry@cs.ucsb.edu">machiry@cs.ucsb.edu</a>
RESEARCH INTERESTS	Trusted Execution Environments, Program Analysis, Vulnerability detection, Operating systems, Fuzzing, Smartphone security.	
EDUCATION	<b>University of California, Santa Barbara</b> , CA, USA Ph.D., Computer Science, <i>Expected</i> : 2020 <ul style="list-style-type: none"><li>Advisors: Christopher Kruegel, Ph.D and Giovanni Vigna, Ph.D</li></ul> <b>Georgia Institute of Technology</b> , Atlanta, GA, USA M.S., Information Security, 2013 <ul style="list-style-type: none"><li>Advisor: Mayur Naik, Ph.D</li></ul> <b>R.V. College of Engineering</b> , Bengaluru, KA, India B.E., Computer Science, 2008	
RESEARCH EXPERIENCE	<b>Graduate Research Assistant</b> Department of Computer Science, University of California, Santa Barbara Supervisors: <a href="#">Christopher Kruegel, Ph.D</a> and <a href="#">Giovanni Vigna, Ph.D</a> <b>Graduate Research Assistant</b> Department of Computer Science, Georgia Institute of Technology. Supervisor: <a href="#">Mayur Naik, Ph.D</a>	Sep 2014 to present    Jan 2012 to May 2013
WORK EXPERIENCE	<b>Software Security Engineer, Qualcomm R&amp;D, San Diego</b> Fuzzing embedded subsystems like ARM TrustZone. Using static type checkers to find multiple address space vulnerabilities. Reviewing micro kernel design and implementation. Code audit of Linux Kernel device drivers.	2013-2014
PUBLICATIONS	<ol style="list-style-type: none"><li>A. Bianchi, Y. Fratantonio, <b>Aravind Machiry</b>, C. Kruegel, G. Vigna, S. Chung, W. Lee. "Broken Fingers: On the Usage of the Fingerprint API in Android." <i>Proceedings of the ISOC Network and Distributed System Security Symposium (NDSS)</i>, 2018.</li><li>A. Bianchi, K. Borgolte, J. Corbetta, F. Disperati, A. Dutcher, J. Grosen, P. Grosen, <b>Aravind Machiry</b>, C. Salls, N. Stephens, G. Vigna, R. Wang (Authors listed alphabetically). "Mechanical Phish: Resilient Autonomous Hacking." <i>IEEE Security Privacy Magazine - SPSI: Hacking without Humans</i> 2018.</li><li>N. Redini, <b>Aravind Machiry</b>, D. Das, Y. Fratantonio, A. Bianchi, E. Gustafson, Y. Shoshitaishvili, C. Kruegel, G. Vigna. "BootStomp: On the Security of Bootloaders in Mobile Devices." <i>Chaos Communication Congress (34C3)</i>, 2017.</li><li>Jake Corina, <b>Aravind Machiry</b>, Christopher Salls, Yan Shoshitaishvili, Shuang Hao, C. Kruegel, and G. Vigna. "DIFUZZING Android Kernel Drivers." <i>Black Hat Europe London, UK December (BH EU)</i>, 2017.</li></ol>	

5. Jake Corina, **Aravind Machiry**, Christopher Salls, Yan Shoshitaishvili, Shuang Hao, C. Kruegel, and G. Vigna. “DIFUZE: Interface Aware Fuzzing for Kernel Drivers.” *Proceedings of the 24th ACM Conference on Computer and Communications Security (CCS)*, **2017**.
6. **Aravind Machiry**, C. Spensky, J. Corina, N. Stephens, C. Kruegel, G. Vigna. “DR.CHECKER: A Soundy Analysis for Linux Kernel Drivers.” *Proceedings of the 26th USENIX Security Symposium (USENIX Security)*, **2017**.
7. N. Redini, **Aravind Machiry**, D. Das, Y. Fratantonio, A. Bianchi, E. Gustafson, Y. Shoshitaishvili, C. Kruegel, G. Vigna. “BootStomp: On the Security of Bootloaders in Mobile Devices.” *Proceedings of the 26th USENIX Security Symposium (USENIX Security)*, **2017**.
8. **Aravind Machiry**, E. Gustafson, C. Spensky, C. Salls, N. D. Stephens, R. Wang, A. Bianchi, Y. E. Choe, C. Kruegel, G. Vigna. “BOOMERANG: Exploiting the Semantic Gap in Trusted Execution Environments.” *Proceedings of the ISOC Network and Distributed System Security Symposium (NDSS)*, **2017**.
9. R. Wang, Y. Shoshitaishvili, A. Bianchi, **Aravind Machiry**, J. Grosen, P. Grosen, C. Kruegel, G. Vigna. “Ramblr: Making Reassembly Great Again.” *Proceedings of the ISOC Network and Distributed System Security Symposium (NDSS)*, **2017**.
10. A. Bianchi, K. Borgolte, J. Corbetta, F. Disperati, A. Dutcher, J. Grosen, P. Grosen, **Aravind Machiry**, C. Salls, N. Stephens, G. Vigna, R. Wang (Authors listed alphabetically). “Cyber Grand Shellphish.” *Phrack*, **2017**.
11. Y. Fratantonio, **Aravind Machiry**, A. Bianchi, C. Kruegel, G. Vigna. “CLAPP: Characterizing Loops in Android Applications.” *ACM Symposium on Foundations of Software Engineering (FSE)*, **2015**.
12. Y. Fratantonio, **Aravind Machiry**, A. Bianchi, C. Kruegel, G. Vigna. “CLAPP: Characterizing Loops in Android Applications (Invited Talk).” *Proceedings of the International Workshop on Software Development Lifecycle for Mobile (DeMobile)*, **2015**.
13. **Aravind Machiry**, Rohan Tahiliani, Mayur Naik. “Dynodroid: An Input Generation System for Android Apps.” *ACM Symposium on Foundations of Software Engineering (FSE)*, **2013**.

#### PRESENTATION AND TALKS

1. **Aravind Machiry**. “Unleashing D\_ on Android Kernel Drivers.” *nullcon - International Security Conference*, **2018**.
2. Chris Salls, Yan Shoshitaishvili, Nick Stephens, Giovanni Vigna, and Christopher Kruegel. “Piston: Uncooperative Remote Runtime Patching.” *ACSAC 33 USA*, **2017**.
3. Y. Shoshitaishvili, A. Bianchi, K. Borgolte, J. Corbetta, F. Disparati, A. Dutcher, G. Vigna, **Aravind Machiry**, C. Salls, N. Stephens, F. Wang, J. Grosen. “Cyber Grand Shellphish.” *DEFCON 24 USA*, **2016**.
4. **Aravind Machiry**. “Million Dollar Baby: Towards ANGRly conquering DARPA CGC.” *nullcon - International Security Conference*, **2016**.

#### HONORS AND AWARDS

##### Fellowships

- Symantec Research Labs Graduate Fellowship

2018

Research Awards

- **CSAW Applied Research Finalist** for DIFUZE. CSAW 2017
- **Internet Defense Prize Runner up** for DR.CHECKER. USENIX Security 2017
- **Distinguished Paper Award** for Ramblr. NDSS 2017
- **Best Paper Award** for CLAPP. Grad Workshop 2016
- **Distinguished Artifact Award** for Dynodroid. FSE 2013

Student Awards — Georgia Institute of Technology

- College of Computing, **MS Research award** 2013

PROFESSIONAL  
ACTIVITIES

- **Program Committee Member**, IEEE Symposium on Security and Privacy (S&P) Shadow PC, 2018.
- **Reviewer**, Journal of Information and Software Technology, 2017.
- **External Reviewer**, USENIX Security Symposium (SEC), 2017.
- **External Reviewer**, Network and Distributed System Security Symposium (NDSS), 2016.

TEACHING  
EXPERIENCE

Teaching Assistant Summer 2015  
CS8 - Introduction to Computer Science  
Instructor: Veronika Strnadova-Neeley  
Division of Computer Science,  
University of California, Santa Barbara.

REFERENCES

Christopher Kruegel E-mail: [chris@cs.ucsb.edu](mailto:chris@cs.ucsb.edu)  
Professor  
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Mayur Naik E-mail: [mhnaik@cis.upenn.edu](mailto:mhnaik@cis.upenn.edu)  
Associate Professor  
Computer and Information Science  
University of Pennsylvania.