Aravind Machiry

| CONTACT INFORMATION | University of California, Santa Barbara
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RESEARCH INTERESTS

Trusted Execution Environments, Program Analysis, Vulnerability detection, Operating systems, Fuzzing, Smartphone security.

EDUCATION

University of California, Santa Barbara, CA, USA

Ph.D., Computer Science, *Expected:* 2020
- Advisors: Christopher Kruegel, Ph.D and Giovanni Vigna, Ph.D

Georgia Institute of Technology, Atlanta, GA, USA

M.S., Information Security, 2013
- Advisor: Mayur Naik, Ph.D

R.V. College of Engineering, Bengaluru, KA, India

B.E., Computer Science, 2008

RESEARCH EXPERIENCE

Graduate Research Assistant — Sep 2014 to present
Department of Computer Science,
University of California, Santa Barbara
Supervisors: Christopher Kruegel, Ph.D and Giovanni Vigna, Ph.D

Graduate Research Assistant — Jan 2012 to May 2013
Department of Computer Science,
Georgia Institute of Technology.
Supervisor: Mayur Naik, Ph.D

WORK EXPERIENCE

Software Security Engineer, Qualcomm R&D, San Diego — 2013-2014
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.

PUBLICATIONS

1. A. Bianchi, Y. Fratantonio, **Aravind Machiry**, C. Kruegel, G. Vigna, S. Chung, W. Lee. "Broken Fingers: On the Usage of the Fingerprint API in Android." *Proceedings of the ISOC Network and Distributed System Security Symposium (**NDSS**)*, **2018**.

2. Jake Corina, **Aravind Machiry**, Christopher Salls, Yan Shoshitaishvili, Shuang Hao, C. Kruegel, and G. Vigna. "DIFUZZING Android Kernel Drivers." *Black Hat Europe London, UK December (**BH EU**)*, **2017**.

3. 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**.

4. **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**.

5. 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**.

6. **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**.

7. 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**.

8. 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**.

9. 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**.

10. 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**.

11. **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. Y. Shoshitaishvili, A. Bianchi, K. Borgolte, J. Corbetta, F. Disperati, A. Dutcher, G. Vigna, **Aravind Machiry**, C. Salls, N. Stephens, F. Wang, J. Grosen. "Cyber Grand Shellphish." ***DEFCON 24** USA*, **2016**.

2. **Aravind Machiry**. "Million Dollar Baby: Towards ANGRly conquering DARPA CGC." ***nullcon** - International Security Conference*, **2016**.

HONORS AND AWARDS

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 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.

- **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
	Professor	
	Computer Science Department	
	University of California, Santa Barbara.	
	Giovanni Vigna	E-mail: vigna@cs.ucsb.edu
	Professor	
	Computer Science Department	
	University of California, Santa Barbara.	
	Mayur Naik	E-mail: mhnaik@cis.upenn.edu
	Associate Professor	
	Computer and Information Science	
	University of Pennsylvania.	