

Brian Johannesmeyer

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EDUCATION	<i>Vrije Universiteit Amsterdam</i> Ph.D. in Computer Science	March 2019 - present
	<i>University of California, San Diego</i> M.S. in Computer Science	Sep 2015 - June 2018
	<i>University of Arizona</i> B.S. in Electrical and Computer Engineering B.S. in Computer Science Magna Cum Laude, with Honors	Aug 2011 - May 2015

- PUBLICATIONS** [10] “Practical Data-Only Attack Generation”. B. Johannesmeyer, A. Slowinska, H. Bos, C. Giuffrida. *USENIX Security 2024*.
- [9] “KASPER: Scanning for Generalized Transient Execution Gadgets in the Linux Kernel”. B. Johannesmeyer, J. Koschel, K. Razavi, H. Bos, C. Giuffrida. *NDSS 2022*.
- [8] “On the Effectiveness of Same-Domain Memory Deduplication”. A. Costi, B. Johannesmeyer, E. Bosman, C. Giuffrida, H. Bos. *ACM EuroSec 2022*.
- [7] “Triton: A Software-Reconfigurable Federated Avionics Testbed”. S. Crow, B. Farinholt, B. Johannesmeyer, K. Koscher, S. Checkoway, S. Savage, A. Schulman, A. Snoeren, K. Levchenko. *USENIX CSET 2019*.
- [6] “FaCT: A DSL for Timing-Sensitive Computation”. S. Cauligi, G. Soeller, B. Johannesmeyer, F. Brown, R. Wahby, J. Renner, B. Gregoire, G. Barthe, R. Jhala, D. Stefan. *ACM PLDI 2019*.
- [5] “FaCT: A Flexible Constant-Time Programming Language”. S. Cauligi, G. Soeller, F. Brown, B. Johannesmeyer, Y. Huang, R. Jhala, D. Stefan. *IEEE SecDev 2017*.
- [4] “Dead Store Elimination (Still) Considered Harmful”. Z. Yang, B. Johannesmeyer, S. Lerner, K. Levchenko. *USENIX Security 2017*, August 2017.
- [3] “A Generic Approach to Automatic Deobfuscation of Executable Code”. B. Yadegari, B. Johannesmeyer, B. Whitely, S. Debray. *IEEE S&P 2015*. **CSAW Applied Research 2015 Finalist**.
- [2] “Identifying and Understanding Self-Checksumming Defenses in Software”. J. Qiu, B. Yadegari, B. Johannesmeyer, S. Debray. *ACM CODASPY 2015*.
- [1] “A Framework for Understanding Dynamic Anti-Analysis Defenses”. J. Qiu, B. Yadegari, B. Johannesmeyer, S. Debray. *PPREW 2014*.

EXPERIENCE	<i>Graduate Research Assistant</i> <i>Vrije Universiteit Amsterdam</i> Advisor: Herbert Bos Developed KASPER, a speculative execution gadget scanner for the Linux kernel, which identified hundreds of previously undiscovered gadgets [9]. Developed EINSTEIN, a data-only attack exploitation pipeline, which generated hundreds of mitigation-bypassing exploits for common server applications [10].	Mar 2019 - present
	<i>Interim Engineering Intern</i> <i>Qualcomm Product Security Initiative</i> Advisor: Frédéric Basse Investigated the risk of side-channel attacks in digital signal processors and evaluated mitigation strategies.	Jun 2018 - Sept 2018
	<i>Graduate Research Assistant</i> <i>University of California, San Diego</i> Advisor: Kirill Levchenko Discovered and fixed instances where compilers introduced security issues because of optimizations such as dead store elimination [4]. Helped design a domain-specific language and compiler for writing constant-time code [5–6]. Reverse the engineered communications management units used in avionics systems to identify security issues [7].	Sept 2015 - Jun 2018
	<i>Undergraduate Research Assistant</i> <i>University of Arizona</i> Advisor: Saumya Debray Developed programs that employed state-of-the-art anti-tampering techniques (e.g., multi-guard checksums, self-modifying checksums) and obfuscation techniques (e.g., emulation-based obfuscation, return-oriented programming) [1–3].	Jun 2012 - May 2015
AWARDS AND HONORS	<i>Qualcomm Innovation Fellowship Finalist</i>	June 2022
	<i>CSAW Applied Research Finalist</i>	November 2015
	<i>University of Arizona Computer Science Outstanding Undergraduate Research Award</i>	May 2015
	<i>Eta Kappa Nu Member and Officer</i>	Sep 2013
	<i>Tau Beta Pi Member</i>	Sep 2013
	<i>Phi Beta Kappa Member</i>	May 2013
	<i>Arizona Board of Regent’s High Honors Tuition Scholarship</i>	Aug 2011
TEACHING	<i>Teaching Assistant</i> <i>Vrije Universiteit Amsterdam: Network Security</i>	P2 2021, P2 2022
	<i>Teaching Assistant</i> <i>Vrije Universiteit Amsterdam: Computer and Network Security</i>	P1 2019, P1 2020
	<i>Teaching Assistant</i> <i>University of California, San Diego, CSE 127: Introduction to Computer Security</i>	Fall 2017, Spring 2018
	<i>Lab Teaching Assistant</i> <i>University of Arizona, ECE 340A: Introduction to Communications</i>	Fall 2014, Spring 2015