

# Alex Takakuwa

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Computer Science & Engineering  
University of Washington  
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## Education

2012-Present University of Washington - PhD student in Computer Science, Seattle, WA.  
Master of Science in Computer Science, December 2015.  
2007-2010 University of Pennsylvania - College of Arts and Sciences, Philadelphia, PA.  
Bachelor of Arts in Mathematics, December 2010.  
Summer 2009 Universidad Di Tella, Buenos Aires, Argentina.  
2006-2007 University of Chicago, Chicago, IL.  
2006-2008 University of California, Davis, CA.

## Publications

Rajalakshmi Nandakumar, Alex Takakuwa, Tadayoshi Kohno, Shyamnath Gollakota. "CovertBand: Activity Information Leakage Using Music". Proceedings of ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT'17); (UBICOMP). Vol. 1, No. 1, Article 87. 2017  
<http://musicattacks.cs.washington.edu/activity-information-leakage.pdf>

Alex Takakuwa, Alexei Czeskis, Tadayoshi Kohno. "The Transfer Access Protocol - Moving to New Authenticators in the FIDO Ecosystem". Technical Report 2017.  
<https://www.cs.washington.edu/tr/2017/06/UW-CSE-17-06-01.pdf>

Miro Enev, Alex Takakuwa, Karl Koscher, Tadayoshi Kohno. "Automotive Driver Fingerprinting". Proceedings on Privacy Enhancing Technologies PETS; 2016 (1):34-51  
[http://miro.enev.us/papers/driver\\_ID.pdf](http://miro.enev.us/papers/driver_ID.pdf)

## Research Experience

University of Washington  
*Advisors: Tadayoshi Kohno, Shwetak Patel, Shyamnath Gollakota*  
Research in Computer Security and Privacy. Research Assistant  
2012-Present

- Research Project: Work with Alexei Czeskis to enable users to easily transfer access from one u2f device to another. Working on the open-source u2f-ref-code implementation from Google.
- Research Project: Work with Rajalakshmi Nandakumar to do covert sensing of human movement, basic classification, and 2-D mapping through common household walls and barriers with sonar. Press release: <http://musicattacks.cs.washington.edu/>
- Business Plan Competition: Design and pitch a smart deadbolt that uses secure authentication.
- Research Project: Work with Elliot Saba to passively eavesdrop and track NFC communications at long range leveraging existing power line infrastructure.
- Research Project: Work with Miro Enev identifying drivers using feature extraction from the most common car sensors.
- Research Project: Passive eavesdropping on phone conversations using Doppler shift as a side channel.

University of CA, Davis  
*Advisor: Eric Heien*  
Worked on a build and test framework for research codes used by the Center for Computational Infrastructure for Geodynamics. Junior Specialist  
2011-2012

## Teaching Experience

- Teaching Assistant, University of Washington. Jan. 2013 - Mar. 2013  
Computer Security (CSE 484)  
Teaching Assistant, University of Washington. Sep. 2012 - Dec. 2012  
Computer Security (PMP 564)

## Professional Activity

- 2017 Participant - USENIX Security conference, Vancouver, B.C.  
2017 Speaker. FIDO Alliance Plenary - Vancouver, B.C.  
2015 Cast. Appeared in NOVA: Season 42, Episode 17 - (min 33) Cyberwar Threat, Seattle, WA  
<http://www.pbs.org/video/nova-cyberwar-threat-pro/>  
2015 Attendee. USENIX Security conference, Washington D.C.  
2012-15 Attendee. DEFCON conference, Las Vegas, NV.  
2013 Speaker. National Initiative for Cybersecurity Education Workshop - NIST, Washington D.C.  
2013 Attendee. Embedded Device Security Conference, Seattle, WA.

## Academic Honors

- 2015 Final 16 in the UW Business Plan Competition  
2012 Anne Dinning - Michael Wolf Endowed Regental Fellowship, University of Washington  
2009 ESPN The Magazine/CoSIDA Academic All-District First Team Honors  
2009 Philadelphia Inquirer Academic All-District Award  
2007 Deans List, University of Chicago

## Work Experience/Community Service

- 2017 Software Engineering Intern, Identity Team, Google Inc., Mountain View, CA  
2010 Financial Research Intern, Informa PLC Telecoms and Media, London, UK.  
2007-08 Emergency Room Volunteer, Jefferson Hospital, Philadelphia, PA.

## Skills

Ability to multi-task, plan and organize work and set priorities, positive and self motivated, ability to work under pressure with a heavy workload, excellent communication and interpersonal skills and a team player. Willing to learn new things and work in a variety of areas with particular interest in math, computer science, and statistics. Coursework includes graduate classes in math, computer science, and two years of physics. Experience working with USRPs, antennas, and signal processing.

Programming Languages: Java, Python, Matlab, GNURadio, C, C++, SQL, HTML  
Tools and Systems: Android development tools, PostgreSQL, MySQL