Paul Vines

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Education

Ph.D. Student **2012-present**

Master of Science **2015**
Computer Science & Engineering, University of Washington, Seattle, WA
Cumulative GPA: 3.77 / 4.00

Bachelor of Science **2012**
Computer Science and Biology, Roanoke College, Salem, VA
Cumulative GPA: 4.00 / 4.00

Research & Work Experience

- Graduate Researcher - University of Washington Covert Communication Project 2014-Present
  - Designed and implemented a steganographic system for hiding data in normal network traffic of online games
  - Reverse-engineered the network code of a game
  - Implemented simple chat server/client with OTR to communicate through the covert channel
- Graduate Researcher - University of Washington Android Security Project 2012-2014
  - Helped design and implement static analysis of Android code
  - Performed analysis of malicious apps
- Security Engineering Intern - iSEC Partners Jun-Sep 2013
  - Constructed and programmed a PIN-cracking robot
  - Investigated ZigBee home alarm system security
- Software Developer - Software Developer - Virginia Bioinformatics Institute Jun-Sep 2012
  - Designed and implemented discrete network model creation and visualization program (Java) (Github.com/Simulab)
  - Designed and implemented discrete network analysis algorithms (C++) (Github.com/plvines/CycloneUnix)

Research & Work Experience

- Experience programming in Java (including Android), C++, and Python
- Computer and network security

- Censorship system implementation and evasion
- Reverse engineering x86
- Some experience with Coq and Type-System-based Static Analysis

Publications

- *Rook: Using Video Games as a Low-Bandwidth Censorship Resistant Communication Platform.*
  Paul Vines, Tadayoshi Kohno. WPES 2015
- *Static Analysis of Implicit Control Flow: Resolving Java Reflection and Android Intents.*
  Paulo Barros, Rene Just, Suzanne Millstein, Paul Vines, Werner Dietl, Marcelo D'Amorim, Michael D. Ernst. ASE 2015
- *Collaborative Verification of Information Flow for a High-Assurance App Store.*
  Michael D. Ernst, Rene Just, Suzanne Millstein, Werner Dietl, Stuart Pernsteiner, Franziska Roesner, Karl Koscher, Paulo Barros, Ravi Bhoraskar, Seungyop Han, Paul Vines, Edward X. Wu. CCS 2014
- *R2B2: PIN-Cracking Robot.*
  Justin Engler, Paul Vines. DefCon 2013.