William T. Hallahan

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Research Interests

Program Synthesis, synthesis by example, verification

Education

Yale University — **New Haven, CT**
Computer Science, Prospective Ph.D. — *2015–2020 (Anticipated)*
Advisor: Ruzica Piskac

College of the Holy Cross — **Worcester, MA**
Bachelor of Arts in Mathematics, Computer Science (Double Major) — *2011–2015*
Thesis: Stability of the coefficients in the Kronecker product of a hook and a rectangle
Thesis Advisor: Cristina Ballantine

Research

Publications

W. Hallahan, E. Zhai, R. Piskac. **Automated Analysis and Repair By Example for Firewalls.** *FMCAD*, 2017.

C. Ballantine, W. Hallahan. **Stability of coefficients in the Kronecker product of a hook and a rectangle.** *Journal of Physics A: Mathematical and Theoretical, Vol. 49 (5)*, 2015.

Talks

Automated Analysis and Repair By Example for Firewalls
FMCAD — *October 2017*

Automated Firewall Repair via Example-Based Synthesis
IBM Programming Languages Day, IBM T.J. Watson Research Center — *December 2016*

Stability of the coefficients in the Kronecker product of a hook and a rectangle
College of the Holy Cross — *April 2015*

Poster Presentations

Building a Symbolic Execution Engine for Haskell
FMCAD — *October 2017*

Automated Firewall Repair via Example-Based Synthesis
FMCAD — *October 2016*

On the Kronecker Product of a Hook and a Box
JMM — *January 2015*

Teaching

Teaching Assistant

Software Analysis and Verification — **Yale University**
Taught by Ruzica Piskac — *Fall 2017*

Principles of Operating Systems — **Yale University**
Taught by Avi Silberschatz — *Spring 2017*

Introduction to Systems Programming & Computer Organization — **Yale University**
Taught by Stanley C. Eisenstat — *Fall 2016*

Led Tutorial Session

Algebraic Structures — **College of the Holy Cross**
Taught by Cristina Ballantine — *Spring 2015*

Technical Skills

Haskell, Python, SMT-LIB, C, and C++