

Ethan Graham Holder

(540) 589-2020

eholder0@vt.edu

Permanent Address
4928 Huntridge Road
Roanoke, VA 24012

Current Address
13000 Foxridge Lane Apt. B
Blacksburg, VA 24060

EDUCATION:

Virginia Polytechnic Institute & State University, Blacksburg, VA. 24060

Master of Science in Computer Science and Applications.

GPA: 3.825

Graduation: May 2015

Virginia Polytechnic Institute & State University, Blacksburg, VA. 24060

Bachelor of Science in Computer Science in honors with Business and Mathematics minors.

GPA: 3.697

Graduation: May 2014

William Byrd High School, Vinton, VA. 24179

Advanced Studies Diploma with Dual Enrollment courses.

GPA: 4.21

Class Rank: 1st of 295

Graduation: June 2010

ACTIVITIES:

Upsilon Pi Epsilon Computer Science Honor Society President (2013-Current)

Upsilon Pi Epsilon Computer Science Honor Society Member (2012-Current)

Virginia Tech Intramural Basketball Male Team Captain (2014)

Virginia Tech Intramural Flag Football Male Team Captain (2010, 2013)

InVenTs Leadership Team at Virginia Tech (2012-2013)

Virginia Tech Honors Student (2010-2014)

Galileo Engineering Community at Virginia Tech (2010-2012)

Virginia Tech Intramural Flag Football Co-ed Team Captain (2010)

Manna Ministries Volunteer (September 2009-January 2010)

HONORS/SCHOLARSHIPS:

Virginia Tech Dean's List with Distinction (2010-2014)

Virginia Tech Frank M. Fazio General Engineering \$3100 Scholarship (2013)

Virginia Tech May Electrical Engineering \$2000 Scholarship (2011-2012)

Virginia Tech Computer Science Research Consortium \$2000 Scholarship (2012)

Virginia Tech Computer Science Research Consortium \$1500 Scholarship (2011)

American Electric Power \$7000 Scholarship (2010)

Roanoke County General Foundation Scholarship (2010)

RESEARCH & PUBLICATIONS:

MS Thesis Research, Department of Computer Science, Dr. Eli Tilevich

Thesis Committee: Dr. Eli Tilevich (CS, Chair), Dr. Amy Gillick (Music), Dr. Ben Knapp (CS)

Virginia Polytechnic Institute and State University, Blacksburg, VA, December 2014 – Current

Musiplectics (Paper submitted to ONWARD'15) (Thesis submitted to VT Graduate School)

- Define an objective platform for analyzing musical complexity based on fundamental elements of music for all instruments.
- Implement software system to parse MusicXML using the visitor pattern, which tokenizes, weights, and aggregates musical elements into a complexity score.
- Compare objective complexity scores to subjective grades based on instructional syllabi.

Holder E. Musiplectics: Computational Assessment of the Complexity of Music Scores. *Virginia Polytechnic Institute and State University*, Master's Thesis, April 23, 2015.

Undergraduate Research, Department of Computer Science, Dr. Eli Tilevich
Honors Bachelor's Thesis Committee: Dr. Eli Tilevich (CS, Chair)
Virginia Polytechnic Institute and State University, Blacksburg, VA, January 2014 – May 2014
Native Gap (2nd Prize at Virginia Tech Undergraduate Research in Computer Science, VTURCS)

- Implement software system to translate generic HTML and PhoneGap applications into identical native Android applications.
- Conduct in depth literature review on state of translation systems surrounding HTML.
- Develop and find generic HTML applications for acceptance testing.

Holder E. Native Execution of Mobile Applications Across Platforms. *Virginia Polytechnic Institute and State University*, Honors Bachelor's Thesis, May 7, 2014.

Undergraduate Research, Department of Computer Science, Dr. Eli Tilevich
Virginia Polytechnic Institute and State University, Blacksburg, VA, January 2013 – May 2013
Cloud Twin (2nd Prize at Virginia Tech Undergraduate Research in Computer Science, VTURCS)

- Implement software system to translate Android applications into identical native Windows Phone applications.
- Define intermediate code structure as basis for translating between mobile operating systems.
- Develop Android and Windows Phone applications for acceptance testing.

Holder E., Shah E., Davoodi M., Tilevich E. Cloud Twin: Native Execution of Android Applications on the Windows Phone. *Automated Software Engineering*, New Ideas, November 11-15, 2013.

Holder E. Cloud Twin: Interactive Cross-Platform Replay for Mobile Applications. *SPLASH*, ACM SRC, October 26-31, 2013.

WORK EXPERIENCE:

Internships

Software Development, Microsoft, Raymond Parsons (Manager) and Salil Bapat (Mentor)
Microsoft, Seattle, WA, May – August 2014

Package Manager Graph Database Project

- Develop Javascript software for visualizing enterprise package management solution.
- Implement C# interfaces for Neo4J-based backend graph infrastructure.
- Transition existing query structure from pre-calculated values to an extensible framework.

Software Development, IBM, Frank Marullo (Manager) and Jose Rodriguez (Mentor)
IBM, Austin, TX, May – August 2013

Security Access Manager Project

- Develop Java software for enterprise security platform.
- Implement REST interfaces for Java-based backend framework.
- Plan, evaluate, and present work items within agile paradigm.

Co-op

Software Development, IBM, Andrea Bailey (Manager) and Adrian Rodriguez (Mentor)
IBM, Research Triangle, Raleigh, NC, January – December 2012 (August – December part time)
Update Package Verification Project

- Develop Java software to test device driver and firmware update packages.
- Implement shell/terminal calls on Windows and Linux from Java.
- Plan, evaluate, and present work items within agile paradigm.

On Campus Work

CEED, Center for the Enhancement of Engineering Diversity, Susan Arnold-Christian
Virginia Polytechnic Institute and State University, Blacksburg, VA, August 2014 – May 2015
Graduate Teaching Assistant for Galileo Seminar

- Teaching three sections of freshman engineering students as the instructor of record.
- Coordinating events promoting diversity in engineering.
- Constructing and grading weekly professional and academic development assignments.

SWAT (Software Assistance and Triage), College of Engineering, Jeff Lewis
Virginia Polytechnic Institute and State University, Blacksburg, VA, Seasonally 2011-2014
SWAT Office Technician

- Perform software and OS installations.
- Trouble-shoot software problems for any Windows or OS X compatible computer or tablet.
- Recover lost or corrupted data across hard disk, hybrid, and solid state drives.

InVenTs, Center for the Enhancement of Engineering Diversity, Susan Arnold-Christian
Virginia Polytechnic Institute and State University, Blacksburg, VA, August 2012 – May 2013
InVenTs Team Member

- Orient freshman through the transition from high school to college.
- Plan design competition events for cross-discipline freshman.
- Organize mentor teams and events for cross-discipline mentors.

Galileo, Center for the Enhancement of Engineering Diversity, Susan Arnold-Christian
Virginia Polytechnic Institute and State University, Blacksburg, VA, April 2011 – May 2012
Galileo Mentor and Team Member

- Orient freshman through the transition from high school to college.
- Tutoring freshman for classes in which they might be struggling.
- Planning social activities for groups of freshman.