

# Austin Cory Bart, PhD.

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506 Broce Drive #18, Blacksburg VA, 24060  
(302)-384-2729  
acbart@vt.edu  
<https://www.acbart.com>  
<https://github.com/acbart/>

## Summary

- Researcher in **Computer Science** and **Learning Science**. Seeking a position as Research Professor, Collegiate Faculty, Curriculum Developer, or Educational Software Developer. Passionate about teaching and developing technology to support education by leveraging the latest learning theory and computational techniques. Equally comfortable as both Software Architect and Educational Researcher, having developed a significant amount of sophisticated software and taught in many contexts. Committed to supporting education and diversity in every discipline, especially Computer Science

## Education

**COMPUTER SCIENCE PHD, LEARNING SCIENCES CERTIFICATION ~ VIRGINIA TECH**  
SEPTEMBER 2012 - PRESENT (EXPECTED GRADUATION: MAY 2017)  
COURSEWORK: 4.0 GPA

**HONORS BACHELOR OF COMPUTER SCIENCE WITH DISTINCTION ~ UNIVERSITY OF DELAWARE**  
SEPTEMBER 2008 - MAY 2012  
COURSEWORK: 3.850 GPA

## Notable Projects and Roles

**CREATOR OF THE CORGIS DATASETS PROJECT** | [HTTPS://THINK.CS.VT.EDU/CORGIS](https://think.cs.vt.edu/corgis)

- A curated collection of Big Data sets for introductory programming.
- Provides a contextualized experience to motivate students and increase comprehension.
- Innovative technology makes creating and working with real-time and massive datasets trivial even for beginner students.

**CREATOR OF THE BLOCKPY PROJECT** | [HTTPS://BLOCKPY.COM](https://blockpy.com)

- A web-based, open-access Python programming environment.
- Features a dual block/text editor with mutual language translation – users can switch between the two interfaces at will.
- Instructors can incorporate guided feedback to analyze students' code and provide immediate feedback.
- Data science tools for creating graphs and accessing real-world datasets using simple blocks.

**COMPUTATIONAL THINKING DATA SCIENCE CURRICULUM** | [HTTPS://THINK.CS.VT.EDU/BOOK/](https://think.cs.vt.edu/book/)

- Worked closely with Dr. Dennis Kafura to design a new general education course, with state-of-the-art pedagogical techniques.
- Built a fully-integrated course website with interactive coding and real-time collaboration, based on the Runestone platform.

## Honors and Awards

**2016: XCALIBER AWARD FOR EXCELLENCE IN TECHNOLOGY ASSISTED TEACHING AND LEARNING**

Received as part of a team with Dr. Dennis Kafura for the creation of a new on Computational Thinking for non-majors. The XCaliber award recognizes the application of novel pedagogy and innovative technology in course design across the Virginia Tech community. Includes a \$1000 stipend to further develop curricular resources.

## 2015: VIRGINIA TECH DAVENPORT LEADERSHIP AWARD

Virginia Tech Computer Science Department award that annually acknowledges strong academic performance and recognition as a Davenport Leadership Scholar. Also includes a \$2000 stipend.

## 2014-PRESENT: NATIONAL SCIENCE FOUNDATION GRADUATE RESEARCH PROGRAM FELLOW

A \$96,000 stipend given over three years to pursue the student's own graduate-level research agenda. Given to less than 2,000 of the 13,000 submitted applications from PhDs in varying fields across the entire US, and considered one of the most prestigious scholarships offered through the NSF.

## Teaching and Professional Expertise

- Virginia Tech CS 1014 – “Introduction to Computational Thinking”: Instructor, formerly Associate Instructor. Helped to develop new course. As instructor, lectured and led class sessions, hosted office hours, and assigned grades.
- University of Delaware CISC 108 – “Introduction to Computer Science I”: Teaching assistant, lab assistant. Ran lab sessions and graded assignments for my section. Held office hours for all students and made myself available in-person outside of office hours.

## Publications and Presentations

### PUBLICATIONS

- A. C. Bart, Motivating Introductory Students with Pedagogical Datasets, Dissertation. March, 2017.
- A. C. Bart, J. Tibau, E. Tilevich, C. A. Shaffer, D. Kafura, Implementing an Open-access, Data Science Programming Environment for Learners, IEEE Computer, Special Issue on the Future of eLearning Technologies. (*Accepted*)
- A. C. Bart, R. Whitcomb, E. Tilevich, C. A. Shaffer, D. Kafura, Computing with CORGIS: Diverse, Real-world Datasets for Introductory Computing, ACM Inroads'17. (*Accepted*)
- A. C. Bart, J. Tibau, D. Kafura, C. A. Shaffer, E. Tilevich. Design and Evaluation of an Open-access, Data Science Programming Environment for Learners, IEEE Transactions on Emerging Topics in Computing. (Under Revision)
- A. C. Bart, R. Whitcomb, E. Tilevich, C. A. Shaffer, D. Kafura, Computing with CORGIS: Diverse, Real-world Datasets for Introductory Computing, SIGCSE'17, Seattle, WA. (**Best Paper**)
- A. C. Bart, J. Tibau, E. Tilevich, C. A. Shaffer, D. Kafura, Implementing an Open-access, Data Science Programming Environment for Learners, COMPSAC '16, Atlanta, Georgia. June 10-15, 2016. (*Abstract only*)
- A. C. Bart, E. Tilevich, C. A. Shaffer, D. Kafura, Position Paper: from Interest to Usefulness with Blockly, a Block-based, Educational Environment, Blocks & Beyond '15, Atlanta, Georgia. October 21-23, 2015.
- D. Kafura, A. C. Bart, B. Chowdhury, Design and Preliminary Results from a Computational Thinking Course. ITiCSE'15, Vilnius, Lithuania. July 6-8, 2015.
- A. C. Bart, E. Tilevich, T. Allevato, S. Hall, C. A. Shaffer, Transforming Introductory Computer Science Projects via Real-Time Web Data, SIGCSE '14, Atlanta, Georgia. March 5-8, 2014.

### WORKSHOPS & DEMOS

- A. C. Bart, D. Kafura. Blockly Interactive Demo: Dual Text/Block Python Programming Environment for Guided Practice and Data Science. SIGCSE'17, Seattle, WA. 2017.
- E. Tilevich, C. A. Shaffer, A. C. Bart. Creating Stimulating, Relevant, and Manageable Introductory Computer Science Projects that Utilize Real-Time, Large, Web-Based Datasets, SIGCSE'15, Kansas City, MO. 2014.
- E. Tilevich, C. A. Shaffer, A. C. Bart. Creating Stimulating, Relevant, and Manageable Introductory Computer Science Projects that Utilize Real-Time, Web-Based Datasets, SIGCSE'14, Atlanta, GA. 2013.

### CONFERENCE TALKS

- A. C. Bart, C. A. Shaffer. Instructional Design is to Teaching as Software Engineering is to Programming. SIGCSE '16. Kansas City, MO. March 2-5, 2016.
- A. C. Bart, J. Riddle, O. Saleem, B. Chowdhury, E. Tilevich, C. A. Shaffer, D. Kafura, Motivating Students with Big Data: CORGIS and MUSIC, Splash-E '14, Portland, Oregon. October 21-23, 2014.
- A. C. Bart, E. Tilevich, C. A. Shaffer, T. Allevato, S. Hall, Using Real-Time Web Data to Enrich Introductory Computer Science Projects, Splash-E '13, Indianapolis, Indiana. October 26-31, 2013.