

---

# Brittany Ann Kos

## Curriculum Vitae

Email

[[brittany.kos@colorado.edu](mailto:brittany.kos@colorado.edu)]

Linkedin

[[linkedin.com/in/brittanyannkos](https://www.linkedin.com/in/brittanyannkos)]

Website

[[BrittanyAnnKos.com](http://BrittanyAnnKos.com)]

---

## Education

---

May 2019

**Ph.D. Computing Education Research**

ATLAS Institute — University of Colorado Boulder

2014

**M.S. Computer Science**

2012

**B.S. Computer Science**

College of Engineering and Applied Sciences - University of Colorado Boulder  
Emphasis in Human-Centered Computing  
Minor in Technology, Arts and Media

## Research Interests

---

- Computer science education
- Diversity and inclusion of women and non-binary students
- Identity and belonging
- Informal and out-of-classroom education
- Program evaluation and critical and event studies

## Research Projects

---

2017 - Current

**T9Hacks**

*Founder, Lead Coordinator, Advisor*

T9Hacks is a women's hackathon promoting gender diversity in creative technology. The hackathon creates opportunity for women to explore new technologies, solve real-world problems, and create something amazing with a team.

- [The Unique Hackathon Experience — [Working Paper PDF](#)]
- [Framing the Gender Diversity Conversation at Student Hackathons And Some Organizational Tips — [Code Like A Girl Webpage Link](#)]

## Fellowships and Honors

---

- Summer 2018**      **i3 Teaching Fellow**  
 The iSchool Inclusion Institute (i3) is an undergraduate research and leadership development program that prepares students from underrepresented populations for graduate study and careers in the information sciences.
- 2015 – 2016**      **Chancellor's Graduate Award for Excellence in STEM Education**  
*Computer Science is “Hard”: Uncovering Cultural Identities Within Introductory Computing Courses*  
 This study investigated how cultural norms permeate introductory computing courses and recognize how students adopt or reject these identities in their academic careers. [CSL '15 -&- ICER '15 — [Poster Presentation PDF](#)] [ATLAS Research and Creative Works Expo — [Poster Presentation PDF](#)]
- Oct 2014**      **Best Paper**  
 Kos, B. A., Sims, E. 2014. Infographics: The New 5-Paragraph Essay. *2014 Rocky Mountain Celebration of Women in Computing (RMCWiC '14)*, (Laramie, WY, USA, 2014). [[Full Paper PDF](#)]
- 2013 – 2015**      **National Science Foundation: Graduate Research GK12 Fellow**  
*Graduate Research Fellowship Award Number: 0841423*  
*The ECSITE Project: Engaging Computer Science in Traditional Education*  
 This project incorporated computing into existing K-12 courses by working with local school districts to develop standards-based curriculum appropriate for each individual school. [RMCWiC '15 — [Full Paper PDF](#)] [[Working Paper PDF](#)]

## Preliminary and Past Research Projects

---

- 2017**      **Informal CS Training**  
*Graduate Researcher Advised under Lecia Barker*  
 This mini research project looked at an introductory non-cs computing classroom and how students would help teach each other. We tried an intervention that prompted and guided students through questions that were indented to help them solve programming problems.  
[\[Working Paper PDF\]](#)
- 2016 – 2017**      **NCWIT Retention and Recruitment of Women in CS**  
*Graduate Researcher Advised under Lecia Barker*  
 Worked as a social science researcher with the [National Center for Women in Information Technology \(NCWIT\)](#) on their [Extension Services Project](#), which seeks to increase recruitment and retention of women in computing and technology undergraduate programs.
- 2016**      **Grading at Scale**  
*Lead Researcher Advised under Sarah Miller*

In the Fall of 2018 I worked as a TA for the 700-student Introduction to Engineering Class. This study reported on the grading practices that the 4-person grading staff took to grade weekly assignments at scale.

[\[Full Paper PDF\]](#) [\[Conference Presentation PDF\]](#)

2016

**BlockyTalky***Research Assistant*

BlockyTalky is a research and outreach project lead by Ben Shapiro in the [Laboratory for Playful Computation](#). BlockyTalky teaches students to create interactive, networked physical computing devices by using the BlockyTalky software which is built on Scratch and utilizes Raspberry Pi's.

2015

**Gamification of Intro CS***Research Assistant*

Worked under Kara Benhke, PhD on a gamified introductory Computer Science Principles course. CS Principles facilitated positive programming experiences for students, helped increase learning interest and improve attitudes of CS as a field of study, positively changed perceptions of CS as a creative practice, and also encouraged students to continue learning CS after the course had finished.

[\[Full Paper PDF\]](#)

2011

**Mapping Experiences***Research Assistant*

Undergraduate research assistant.

[\[Full Paper PDF\]](#)

## Teaching Experience

---

Summer 2018

**INFO 1201: Computational Reasoning***Instructor*

This course is a hands-on introduction to create, invent, and build with computer programming. No programming experience is necessary and all backgrounds are welcome. Students will become exposed to high-level computational concepts and practices that include algorithms, data, parallelism, abstraction, and debugging. Assignments and projects will involve learning to program using the Scratch and Python programming languages. The creative and problem-solving strategies introduced in this course are applicable across many domains beyond information and computer sciences.

[\[Syllabus PDF\]](#)

Summer 2018

**i3 Teaching Fellow***Instructor*

i3 is an undergraduate research and leadership development program that prepares students from underrepresented populations for graduate study and careers in the information sciences. i3 Teaching Fellows will co-teach a two-week module to the 2018 cohort of i3 Scholars. Two Teaching Fellows are selected to co-teach a two-week Programming Module, introducing students to the basics of Python. Teaching

Fellows will be responsible for developing and delivering the daily, in-class content of their respective modules.

[\[Syllabus PDF\]](#)

Spring 2016  
Fall 2015

### ATLS 2519: Special Topics in TAM: Code

*Instructor*

Introduces students to fundamental programming concepts and methodologies and apply them to creative projects. Students will learn to use code as a creative and artistic tool, and to utilize programming to find, define and solve problems in innovative ways.

[\[Spring 2016 Syllabus PDF\]](#) [\[Fall 2015 Syllabus PDF\]](#)

Summer 2015

### CSCI 2270: Data Structures

*Instructor*

Studies data abstractions (e.g., stacks, queues, lists, trees) and their representation techniques (e.g., linking, arrays). Introduces concepts used in algorithm design and analysis including criteria for selecting data structures to fit their applications.

[\[Syllabus PDF\]](#)

Spring 2015

### ATLS 3020: Digital Media 2

*Instructor*

A continuation of Digital Media 1 (ATLS 3010), this course introduces students to advanced digital media development including interactive programming, scripting, and database functionality. Emphasizes a historical and conceptual understanding of programming and computational theories.

[\[Syllabus PDF\]](#)

---

Fall 2018

### INFO 1201: Computational Reasoning

*Teaching Assistant*

This course is a hands-on introduction to create, invent, and build with computer programming. No programming experience is necessary and all backgrounds are welcome. Students will become exposed to high-level computational concepts and practices that include algorithms, data, parallelism, abstraction, and debugging. Assignments and projects will involve learning to program using the Scratch and Python programming languages. The creative and problem-solving strategies introduced in this course are applicable across many domains beyond information and computer sciences.

[\[Syllabus PDF\]](#)

Fall 2016

### COEN 1500: Introduction to Engineering

*Teaching Assistant*

Provides an introduction to the engineering profession, including an examination of current discipline specializations and a focus on career paths for those trained in engineering. Provides sufficient knowledge of the engineering disciplines necessary to make an informed major choice.

[\[Syllabus PDF\]](#)

Spring 2016

**CSCI 4830: Special Topics: Computer Science Education***Teaching Assistant*

The computer science department is offering a 1-credit hour special topics course this semester on computer science education. If you are interested in teaching computer science or becoming involved in the computer science department as an undergraduate learning assistant (CA, PLA, or TA) this is the class for you. In this course, we will cover presentation techniques, how to lead a discussion session, assessment, dealing with difficult colleagues, and teaching styles. The class will be taught primarily through discussion and all students will have the opportunity to present and receive feedback in a friendly environment.

[\[Syllabus PDF\]](#)

Fall 2014

**ATLS 1220: Introduction to Computer Science***Teaching Assistant*

This course is designed to introduce students to the central ideas of computer science, to instill ideas and practices of computational thinking, and to have students engage in activities that show how computing and computer science change the world. Rather than focus on a specific tool or programming language, this course focuses on the creative aspects of the field. Students will learn how to use computing as a means to understand and solve problems, reflect upon the cultural impact of technology, demonstrate computational thinking skills by building computer programs and games, learn information retrieval skills by researching and remixing media, and engage in other creative endeavors of computer science. This pilot-course is experimental in nature but intends to appeal to a broad audience

[\[Syllabus PDF\]](#)

Spring 2014

**ATLS 2000: The Meaning of Information Technology***Teaching Assistant*

Surveys the history of information technologies and modern techniques of information production, storage, transmission, and retrieval. Emphasizes understanding not only the technological transformations in interpersonal, organizational, and mass communication, but also the technological, social and political changes that underlie the movement toward a digital society.

[\[Syllabus PDF\]](#)

**Outreach**

2015 - Current

**T9Hacks***Founder, Lead Coordinator, Advisor*

T9Hacks is a women's hackathon promoting gender diversity in creative technology. The hackathon creates opportunity for women to explore new technologies, solve real-world problems, and create something amazing with a team.

*Press*

[CU-Boulder's Atlas Institute hosts inaugural women-centric hack-a-thon — [Daily Camera](#)] [T9Hacks brings women together for 24 hours of hacking — [CUIndependent](#)] [Community Roundup: Hackathons Empowering Safety, Security,

and Diversity — [MLH](#)] [T9Hacks: Supporting Diversity in Tech — [Victor Ops](#)] [CU ATLAS T9Hacks: Bridging the Gap Between Women & Tech — [Quick Left](#)]

### Summer 2015 **Summer SuperSTEM**

*Instructor*

Summer SuperSTEM is a summer program hosted by the [Innovation Center](#), a makerspace for the students in [St. Vrain Valley School District](#).

### Summer 2014 **Digital CUrrents (ATLAS-Campos EPC Summer STEM Program)**

*Teaching Assistant*

The [ATLAS Digital CUrrents](#) is a three-week technology intensive summer workshop for high school students who are largely from underrepresented minority groups. Students learn to use software applications and gain programming skills to create and manipulate digital content and complete a final project that showcases their creative and technical talents. Workshop participants also visit with guest speakers about career opportunities in technology-related fields and enjoy field trips to local technology-focused businesses.

### Summer 2015 **Science Discovery Summer Camp**

Summer 2014

*Instructor*

Summer 2013

[CU Science Discovery](#) offers a variety of hands-on STEM (science, technology, engineering, and math) camps for kids ages 5-18. Science Discovery offers intensive 1-3 week summer for high school students. Workshops provide unique opportunities for older students to work in CU laboratories, interact with CU scientists, and explore STEM careers.

### 2013-2015 **Earth Explorers**

*Board Member, Evaluation Lead, Senior Volunteer, Mentor*

Earth Explorers is an independent nonprofit that partners with local schools and research institutions to provide Science, Technology, Engineering and Math (STEM) curriculum with education in filmmaking to spark a lifelong interest in STEM topics.

## Publications

---

Aug 2018

### **ICER '18 – The Collegiate Hackathon Experience**

*Work-In-Progress*

Kos, B. A. 2018. The Collegiate Hackathon Experience. *ICER '18: Proceedings of the fourtinteeth annual International Conference on International Computing Education Research*, (Espoo, Finland, 2018).

[\[Extended Abstract PDF\]](#)

Jun 2017

### **ASEE '17 – Grade-a-thons and Divide-and-Conquer**

*Full Paper*

Kos, B. A., Miller, S.. 2017. Grade-a-thons and Divide-and-Conquer: Effective Assessment at Scale. *ASEE '17: American Society of Engineering Education 124th Annual Conference & Exposition*, (Columbus, OH, 2017).

[\[Full Paper PDF\]](#) [\[Conference Presentation PDF\]](#)

- Aug 2016**      **ICER '16 – Computer Science Principles**  
*Full Paper*  
 Behnke, K. A., Kos, B. A., Bennett, J. K. 2016. Computer Science Principles: Impacting Student Motivation & Learning Within and Beyond the Classroom. *ICER '16: Proceedings of the twelfth annual International Conference on International Computing Education Research*, (Melbourne, AUS, 2016), 171-180.  
[\[Full Paper PDF\]](#)
- Mar 2015**      **SIGCSE '15 – STEM Careers Infographic Project (SCIP)**  
*Work-In-Progress*  
 Kos, B. A., Sims, E. 2015. STEM Careers Infographic Project (SCIP): Teaching Media-Based Computational Thinking Practices. *SIGCSE '15: Proceedings of the 45th SIGCSE Technical Symposium on Computer Science Education*, (Kansas City, MO, USA, 2015), 681.  
[\[Extended Abstract PDF\]](#) [\[Conference Poster PDF\]](#)
- Oct 2014**      **RMCWiC '14 – Infographics: The New 5-Paragraph Essay**  
*Full Paper*  
 Kos, B. A., Sims, E. 2014. Infographics: The New 5-Paragraph Essay. *2014 Rocky Mountain Celebration of Women in Computing*, (Laramie, WY, USA, 2014).  
[\[Full Paper PDF\]](#)

## Presentations

---

- Aug 2018**      **ICER '18 – The Collegiate Hackathon Experience**  
*Work-In-Progress*
- Nov 2017**      **ATLAS Community Presentation – What's Interesting About Collegiate Hackathons?**  
*Work-In-Progress*
- May 2016**      **ATLAS Research and Creative Work Expo – T9Hacks: A Women's Hackathon**  
*Work-In-Progress*
- Sep 2015**      **7th Annual Symposium on STEM Education – Computer Science is Hard: Looking at the Gender Gap Between Two Computing Programs**  
*Work-In-Progress*
- Aug 2015**      **ICER '15 – Computer Science is Hard: Looking at the Gender Gap Between Two Computing Programs**  
*Lightning Talk and Poster – Work-In-Progress*

- April 2015      **ATLAS Expo – Building Culture Within Introductory Programming**  
*Work-In-Progress*
- Sep 2014        **6th Annual Symposium on STEM Education – STEM Careers Infographic Project (SCIP)**  
*Work-In-Progress*

## Industry Experience

---

- 2012 - 2013      **ZOLL Medical**  
*User Experience Developer*  
ZOLL is a medical company that offers EMS agencies and medical companies software solutions. I worked on the UI of ZOLL Online, maintaining current products, and helping design and integrate new products into the website. I lead projects and learn about the design cycle in a real-world setting.
- 2010 - 2012      **College of Arts & Sciences IT (ASIT)**  
*Web Application Developer*  
ASIT is the in-house IT department University of Colorado's College of Arts & Sciences utilizes to build web applications. I was primarily responsible for the design and implementation of the Orientation checklist, seen by all freshmen and first-year students enrolled at CU. I also helped with implementing usability changes to the Advisor Portal and the Graduation Module, used by all advisors in the college.
- 2010 - 2011      **College of Arts & Sciences IT**  
*Web Developer*  
Transferred and updated the JILA website.