

# Kallie Ziltz

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## INSTRUCTIONAL DESIGNER & TECHNOLOGIST

Leveraging an interdisciplinary background to apply computer science education, instructional technology experience, and knowledge of design models and pedagogy to support teaching and learning.

Specific technical competencies include:

- Multimedia Development (Scratch)
  - Augmented Reality Development (ARIS, Aurasma)
  - Screen Capture and Video Creation (Screencast-o-matic, QuickTime, iMovie)
  - 3D Modeling, Animations and Game Creation (Blender3D and Unity 3D)
  - Virtual Reality Systems (SteamVR, HTC Vive)
  - Website Development (WordPress, Google Sites)
  - Programming Languages (Java, C++, C, SQL, JavaScript, HTML)
  - Learning Management Systems (Moodle CourseSite, Coursesites, Google Classroom, Canvas)
  - Microsoft Office (Word, PowerPoint, Excel and Visio)
  - Database Analytics and ERP Software (IDEA, ACL, SAP)
  - Basic experience with Linux, Unix and MacOS
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## EDUCATION & CERTIFICATIONS

**Lehigh University**, Bethlehem, PA

Ph.D. Student, Teaching, Learning, and Technology (TLT)

**Expected May 2021**

- Advisor: Dr. Thomas Hammond
- Research Focus(es): Motivation of underrepresented groups in CS, Computational Thinking, Theories of Instructional Design
- Relevant Coursework: Instructional Design I and II, Assessment of Instructional Technology, Diversity & Multicultural Perspectives, Technology for Teaching and Learning, Research Methods, Curriculum Theory and Design, Analysis of Experimental data, Applications of Motivational Theories, Multimedia Programming for Learning I and II

M.S. Instructional Technology

**Jan. 2018**

- Advisor(s): Dr. Scott Garrigan, Dr. Farah Vallera

Cum. GPA: 4.0

Certificate, Teacher Development Program: Level I

**Fall 2017**

- Program designed for graduate students to develop teaching and classroom management skills.

B.S. Business and Economics (Accounting)

**May 2016**

B.S. Computer Science and Business

Cum. GPA: 3.68

- Graduated with High Honors
- Computer Science and Business (CSB) is an integrated program between the College of Business and Economics and the P.C. Rossin College of Engineering and Applied Science. The program is accredited in both Computer Science and in Business.
  - Relevant CS/CSB Coursework: Breadth of Computing, Fundamentals of Programming, Programming and Data Structures, Systems Software, Computer Organization and Architecture, Software Engineering, Database Systems and Applications, Programming Languages, Discrete Structures, Programming in C and Unix, Operating System Design, Introduction to the Theory of Computation, Design and Analysis of Algorithms, Computer Applications in Business, Design of Integrated Business Applications I & II
- The undergraduate Accounting program is accredited by AACSB. Program requirements include the completion of the entire undergraduate business core curriculum, in addition to a self-selected concentration in Accounting.

**RELEVANT EXPERIENCE****Lehigh University, Graduate Assistant** **Aug. 2016-Current**

- Design and support 2 undergraduate courses (ACCT 311: Accounting Information Systems and CSB 311: Computer Applications in Business I) as well as 1 graduate course (MACC 412: IT Audit).
- Autonomously facilitate multiple lab sessions in each course to teach students SAP, Visio and IDEA.
- Manage CourseSite pages (learning management platform) to handle grading and scheduling.
- Supported approximately 150 students in the 2018-2019 academic year.

**Lehigh University Computer Science & Engineering, Research Assistant** **June 2018-Current**

- Worked with CSE Faculty under a KEEN Grant to redesign CSE 002 during Fall 2018 semester to incorporate creativity, collaboration and curiosity within an introductory Java programming course.
- Collaborated to develop a semester-long project-based learning module for undergraduates to incorporate and apply fundamental programming concepts.
- Assisted in classroom teaching and management in Fall 2018 and 2019 semester.
- Planned, proposed and currently implementing an educational research project for CSE 002 aimed to measure the effects instructional changes on constructs of student motivation related to computer science, based on the Expectancy-Value Theory of Academic Motivation.

**Da Vinci Science Center, STEM Outreach Educator** **Summer 2019**

- Incorporated knowledge of pedagogy and classroom management techniques to support 3<sup>rd</sup> grade students through a six-week summer remediation program offered at Paxinosa Elementary School in Easton Area School District.
- Collaborated to design standards-based science curriculum with other educators, supported by the Da Vinci Science Center.
- Collected posttest-only survey data to measure student interest and intentions for STEM subject areas and related career paths.

**Lafayette College Instructional Technology, Intern** **Aug. 2018-Dec. 2018**

- Attended weekly group meetings within the Information Technology Services (ITS) group at Lafayette, as well as other meetings between ITS staff and other faculty on campus.
- Collaborated with the Center for the Integration of Teaching, Learning and Scholarship (CITLS), as well as the Academic HUB, to develop original content related to accessible course development utilizing Universal Design for Instruction as a creative framework.
- Co-led a workshop about video conferencing and lecture capture for professors, specifically focusing on pedagogical considerations with these two instructional technologies.
- Independently completed an *Accessibility Audit* that informed feedback and suggestions for an online photography course developed and taught at another institution; Also, researched e-portfolios in higher education and discussed the opportunity to integrate them into this course.

**Lehigh in Prague Study Abroad Program, Graduate Assistant** **Spring 2016-Current**

- Planned and executed information and orientation sessions for students during the academic year.
- Collaborated with faculty and Study Abroad staff to prepare rooming lists, flight schedules, and internship placements.
- Streamlined processes related to the program, including current check-in procedures and other student management activities.
- Supported faculty and students during the four-week stay with class preparation and other tasks.
- Facilitated a successful study abroad experience for over 250 students over the past four summers.

## **PUBLICATIONS**

### **Published:**

- Hall, J., & Ziltz, K. (2019). General Supply Warehouse: A Case Study in Internal Control Assessment and IT Auditing Software. *International Journal of Computer Auditing*, 1(1), 26-63. [https://www.icaea.net/English/Publication/Journal\\_2019.php](https://www.icaea.net/English/Publication/Journal_2019.php)
  - A case study presented related to internal controls. Students are presented with the description of a fictitious company and its accounting information system and asked to use transactional data to identify weaknesses of internal controls within the revenue and expenditure cycle. A special emphasis is placed on identifying areas where fraud has occurred.
- Ziltz, K. & Eng, S. (2017, December 19). [Women in Science: Addressing the Implications of the Gender Imbalance](#). *The Huffington Post*.
  - This op-ed piece describes the current gender disparity that is prevalent throughout STEM curricula and presents suggested intervention techniques that should occur at different points in the STEM pipeline. This article is based on personal experiences as a female in STEM.

### **Freelance Work:**

- *Accounting Information Systems*, 10<sup>th</sup> Ed. by Dr. James Hall. Cengage.
  - Updated the solutions manual corresponding to the end-of-chapter problems and internal control cases in the text.
  - Created unique video content for each chapter covering the risk-based approach to internal controls, system flowcharts, data flow diagrams and database design and normalization.

### **Works in Process:**

- *Using Student-Generated Cases to Support AIS Instruction* (first author)
- *Fixing the “Leaky” Computer Science Pipeline: Using Expectancy-Value Theory to Inform Curricular Change and Address the Gender Gap in Computing* (first author)

## **PRESENTATIONS**

### **Invited Presentations:**

- **LVIAC Teagle Video Creation Workshop: Level 2 & 3** Lehigh University **Spring 2019**
  - Workshop co-facilitator, supported participants in the processes of audio and video capture, as well as video creation and editing, with specific expertise related to Apple software.
- **Guest Speaker** Central Dauphin High School, Harrisburg, PA **Feb. 2019**
  - Spoke to 6 sections of HS Freshman in a required programming course to share my journey to and through computer science, introduce the four main computational thinking strategies, as well as describe real-world opportunities to study computer science.
- **WiSE Career Connection Professional Development Day** Allentown, PA **Feb. 2019**
  - Keynote Speaker and Panelist for K-12 educators at the Da Vinci Science Center.
  - Presentation focused on women in computer science, highlighting personal experiences and suggestions for curricular change to support underrepresented groups in computer science.
- **DeSales STEM Certificate Education Class** Allentown, PA **Fall 2017**
  - Co-presenter with Prof. Sharon Kalafut for small group of teachers enrolled in a STEM Certificate course hosted by Da Vinci Science Center, covering topics including women in STEM/CS, computational thinking, curricular changes in CS courses to support underrepresented students and promote computational thinking concepts.

### **Accepted Presentations:**

- **PA Educational Technology Expo & Conference (PETE & C)** Pittsburgh, PA **Feb. 2020**

- Co-presenter, *Leveraging Universal Design & Assistive Technology to Promote Student Engagement*
- This presentation introduced the audience to Universal Design and the world of Assistive Technology, framed as an opportunity to create accessible course materials while simultaneously promoting student engagement.
- **International Society for Technology in Education Conference** Phila., PA **June 2019**
  - co-presenter, *StARt with AR: Incorporating AR in any classroom* (Poster Session)
    - This poster session is intended to give a brief overview of AR and ARIS as an AR-development tool. We will introduce participants to a diverse collection of instructional AR activities and facilitate open discussions intended to help instructors incorporate AR into any classroom to support the diverse needs of today's students
  - co-presenter, *A 3D Printer Does Not a Makerspace Make: Building Makerspaces for Learning*
    - This presentation will introduce participants to making and makerspaces and debunk the myth that these spaces must contain expensive/unattainable tools. We will discuss how to build student-centered makerspaces into *any* setting for *any* audience!
- **PA Educational Technology Expo & Conference (PETE & C)** Hershey, PA **Feb. 2019**
  - co-presenter, *AR in the CourtyARd: Bring History Anywhere!*
  - This BYOD (bring your own device) session meant to introduce an opportunity to use AR to incorporate kinesthetic learning and spatial within a middle school history classroom, as well as offer participants a hands-on opportunity to plan and create instructional AR activities using ARIS. Due to inclement weather, this presentation was cancelled last-minute.
- **PADLA Conference & Expo** Philadelphia, PA **Dec. 2018**
  - co-presenter, *Designing Distance Learning That Goes the Distance: Using Universal Design Principles and Assistive Tech to Accommodate All Learners*
  - This presentation applied principles from Universal Design for Instruction (UDI) to the context of distance education and the diverse groups of learners that these educational experiences empower. Popular assistive technology applications suggested to support distance instruction.
- **New Jersey Educators Association (NJEA) Conference** Atlantic City, NJ **Nov. 2018**
  - Digital Boulevard co-presenter, *StARt with AR: Incorporating AR in any classroom*
  - In this teacher-to-teacher hands-on session, participants were encouraged to learn about augmented reality (AR), explore instructional opportunities with AR, interact with different sample AR activities provided by the presenters, and identify opportunities for incorporation of AR into any instructional context.
- **Teaching and Learning with Technology Summit** Lehigh University **Oct. 2018**
  - co-presenter, *AR in the CourtyARd: Discovering Ancient Civilizations ANYWHERE!*
    - This presentation explored the topic of augmented reality and the possibility for instructional activities using augmented reality to support spatial awareness and specific content knowledge. We specifically showcased an activity that was currently in-development for a MS social studies classroom focused on ancient civilizations.
  - co-presenter, *Building Makerspaces for Learning*
    - This presentation introduced participants to the maker movement and its importance in education in allowing students to creatively solve problems and innovate solutions. Further, the presenters discussed examples of makerspaces and considerations that teachers should make when incorporating making into any space. Attendees left with examples of making-based activities, design challenges as well as proposals tips.
- **NE-ASTE Conference** University of Vermont **Oct. 2018**

- Roundtable presenter at the Northeast Regional meeting of the Association of Science Teacher Education (ASTE), *You're Really Good at Coding...For a Girl*
  - Presentation covered the state of women in computing, a theoretical approach to understanding the current underrepresentation of females (and other underrepresented groups), as well as introduction to a case study for researching curricular changes options to supporting these students in computing classrooms.
- Scholarship recipient for the 2018 NE-ASTE Conference.
- **PA Educational Technology Expo & Conference (PETE & C)** Hershey, PA **Feb. 2018**
  - Poster Session: *Incorporating Coding across Curriculum with Scratch*
  - Poster Session: *Collaboration and Augmented Reality* (co-presenter)
- **Teaching and Learning with Technology Summit** Lehigh University **Oct. 2017**
  - Co-presenter: *Coding across the Curriculum*
    - Described an integrated, research-based approach to incorporating computing into any curriculum using Scratch, a block-based programming tool, and provided attendees with tips for implementation and design
  - Co-presenter, *Collaboration in Technology Implementation*
    - Defined Augmented Reality (AR) and highlighted ARIS as a platform to create multimedia, AR activities; also, suggested tools for successful implementation of instructional technologies in any classroom or educational setting.

## **LEADERSHIP**

- *Exploring Alternate Realities* **Educational Field Trip** Lehigh University **Dec. 2017**
  - Coordinated with two local elementary school gifted teachers to plan a day trip related to exploring augmented and virtual realities with students.
  - Managed group of 10 students and guided them through various activities.
  - Facilitated use of HTC ViVE to introduce students to virtual reality.
  - Led group discussion after activities to debrief about augmented and virtual realities and differences between them.
- **Grader & Lab Assistant** Lehigh University **2013-2016**
  - Oversaw and distributed grading responsibilities to other undergraduate graders within the Computer Science & Engineering Dept.
  - Managed undergraduate grading staff and handled grading disputes with students and professors for 10 courses over 4 years (2012-2016)
- **Founder**, Women in Computer Science (WiCS) Club **Aug. 2013-May 2016**

## **ADDITIONAL EXPERIENCE**

- St. Thomas More School**, Guest Lecturer **Spring 2016**
  - Designed lectures and assignments to teach fundamentals of Java programming to students in 6<sup>th</sup>, 7<sup>th</sup> and 8<sup>th</sup> grades. Concepts covered included syntax, output, variables, and conditionals.
  - Collaborated with Instructional Technology staff at STM in order to lecture and interact with students weekly over the course of 3 months.
- Lehigh University Wrestling Team**, Director of Operations **Aug. 2012-May 2018**
  - Coordinated and organized team travel plans and schedule each season.
  - Generated marketing media, including pamphlets and other flyers for annual camps and clinics.
  - Coordinated efforts with the Lehigh Wrestling Club to generate increased interest among students.

**Lehigh Rolldown, Project Manager**

**January 2016-Dec. 2017**

- Supervised the conversion cycle of a student-run business to physically clean, wipe hard drives and resell donated computers from labs across campus.
- Maintained the website to manage inventory and allow for faculty/staff to order recycled devices.
- Organized and scheduled student workers to fill and deliver orders to customers.

**PricewaterhouseCoopers: Boston, Risk Assurance Intern**

**June 15<sup>th</sup>- August 4<sup>th</sup>, 2015**

- Worked in a small team to perform ITGC testing to support a financial audit.
- Supported clients in completing testing for SOC 2 and other client-facing reports.

**Synchronoss Technology, Quality Assurance Intern**

**June 18<sup>th</sup>- August 22<sup>nd</sup>, 2014**

- Organized an internal blog page for the Mobile Content Transfer (MCT) Team to share links to various reference pages regarding important application testing information.
- Managed a working list of devices that included all of the devices used in testing as well as application builds testing results.
- Structured shared dashboards on JIRA to hold open tickets for bugs found during application testing. Dashboards were organized by Operating System, ticket priority and other attributes.