

Elizabeth Matthews — CV

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Interests

Teaching:

Software engineering and development using video game construction as motivation.
Teaching logical thinking to promote interest in mathematics and computer science.
Encouraging minorities in STEM-based education and classes.

Research:

Procedural generation in graphic arts production with special emphasis on video game media.
The effect of procedural generation on enjoyment and replay value in video game media.
Inter-disciplinary research topics to broaden the impact of traditional computer science ideas.

Education

PhD. in Human Centered Computing

August 2014–August 2019

University of Florida

Gainesville, FL

MS. in Computer Science

August 2009–May 2014

Clemson University

Clemson, SC

B.S. in Computer Science, Minor in Mathematics

August 2004–June 2009

Western Washington University

Bellingham, WA

Teaching Experience

Assistant Professor

Fall 2018–Present

Washington and Lee University

Lexington, VA

- Programming Fundamentals I and II
- Software Development
- Video Game Design
- Human-Computer Interaction
- Computer Graphics
- Independent Studies

Lecturing Position

Fall 2017

University of Florida

Gainesville, FL

- Computer Programming using Java

Lecturing Position

Fall 2015 – Summer 2017

UFOonline

Gainesville, FL

- Programming Fundamentals I

Lecturing Position

Spring 2013

Clemson University

Clemson, SC

- Introduction to Programming in C

Research Projects

Enjoyment Metrics for Procedural Content Generation **Washington and Lee University**
Summer 2022, 2023 *Lexington, VA*

Development of a research tool to measure enjoyment factors affected by procedural generation in video games.

Video Game Demographic Categories **Washington and Lee University**
Summer 2021, 2022 *Lexington, VA*

Directed a summer research scholar project to examine categories used by other academic research to group participants into gamer categories, ex: "Expert".

Casual Games and Brainwaves **Washington and Lee University**
Summer 2019 *Lexington, VA*

Directed a summer research scholar project to examine electroencephalograph feedback during casual match-three games.

Prime III **University of Florida**
Fall 2014 – Spring 2015 *Gainesville, FL*

Development and testing of the Accessible Voting System, Prime III.

The Institute for Watershed Studies Website **Western Washington University**
Summer 2007 and Summer 2008, <http://www.wvu.edu/iws/> *Bellingham, WA*

Web development for the IWS interactive webpages and Small Lakes Project.

Outreach Projects

Codelt Day **University of Florida**

Summer 2015 and Fall 2015

Assistance in running and teaching middle school to high school ranged children with Lego robots and coding.

Honors and Awards

Best Paper

Proceedings of the 13th International Conference on Game and Entertainment Technologies

Atlas Chronicle: Development and Verification of a System for Procedural Generation of Story-Driven Games

Best Student Paper Award

CGAMES, USA

Procedural Generation of Story-Driven Maps

Member of the Eta Kappa Nu Epsilon Sigma Chapter

EKN

For outstanding achievement in the sciences at *University of Florida*

Service

[Washington and Lee University](#).....

Service on the Institutional Review Board for Human Subjects

June 2021-Current

Review IRB submissions for researchers at Washington and Lee University.

Department.....

Teaching Assistant Coordinator

December 2020-Current

Hire, organize, train, and manage the teaching assistants for the Computer Science Department.

Community.....

Middle School Coding Outreach

Summer 2020-Current, Work In Progress

Encourage middle school students to pursue careers in STEM via coding and lego robot creation.

Select Publications

Journal Articles.....

Elizabeth A Matthews, Irina Koleva, and Sujana Basnet. **Consistent Gaming Skill Demographics in Academic Research.** *IADIS International Journal on Computer Science & Information Systems*, 17(2), 2022.

Elizabeth A. Matthews and Juan E. Gilbert. **Atlas Chronicle: Development and Verification of a System for Procedural Generation of Story-Driven Games.** *Iadis International Journal on Computer Science and Information Systems*, 15(2), 2020.

Conference Papers.....

Elizabeth A. Matthews, Irina Koleva, and Sujana Basnet. **Consistency in Video Game Research: An Analysis of Gaming Skill Demographics.** *Proceedings of the 16th International Conference on Game and Entertainment Technologies (GET 2022)*. IADIS Press, 2022.

Elizabeth A. Matthews and Juan E. Gilbert. **Atlas Chronicle: Development and Verification of a System for Procedural Generation of Story-Driven Games.** K. Blashki, editor, *Proceedings of the 13th International Conference on Game and Entertainment Technologies (GET 2020)*, pages 117–125. IADIS Press, 2020.

Elizabeth A. Matthews, Geoffrey B. Matthews, and Juan E. Gilbert. **A Framework for the Assessment of Enjoyment in Video Games.** Masaaki Kurosu, editor, *Human-Computer Interaction. Interaction Technologies*, volume 10903, pages 460–476. Springer, Cham, 2018.

Elizabeth A. Matthews and Brian A. Malloy. **Incorporating Coherent Terrain Types into Story-Driven Procedural Maps.** *Meaningful Play 2012: Designing and Studying Games that Matter, 2012*, 2012.

Posters.....

Elizabeth A. Matthews, Robin A. Matthews, Zaina Sheets, and Juan E. Gilbert. **CyanoHABIT: A Novel Game to Identify Harmful Freshwater Algae.** Constantine Stephanidis, editor, *HCI International 2018 – Posters' Extended Abstracts*, volume 852, pages 78–84. Springer, Cham, 2018.

Book Chapters.....

Elizabeth A. Matthews, Kyla McMullen, and June Parsons. **Programming with Python.** Cengage, 2022. Modules 1-31 modified from Programming with C++.

Elizabeth A. Matthews. **Programming with C++.** Cengage, 2020. Modules 10, 11, 15, 18, 21, 24, and 31.