

# Brittni Watkins

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## Summary

Highly skilled, self-motivated computer science professional and educator with a passion for writing code and learning new technologies.

## Education

- **Master of Science in Computer Science, 2019**  
Southern Methodist University; Dallas, Texas  
3.940 GPA
- **Bachelor of Arts in Creative Computing with Minors in Music and Computer Science, 2017**  
Southern Methodist University; Dallas, Texas  
3.941 GPA

## Programming Languages

Java, C++, Python, HTML, JavaScript, TypeScript, PHP, DBMS (MySQL, SQLite, Elasticsearch), Markdown

## Work Experience

### **Program Coordinator for the Center of Creative Computation, February 2024 – Present** **Southern Methodist University, Meadows School of the Arts; Dallas, Texas**

- Handle student concerns and route communication to the appropriate parties.
- Handle department faculty concerns and route communication to the appropriate parties.
- Manage creation and finalization of term course schedules, optimizing room scheduling with faculty availability.
- Manage any changes in term course schedules, including canceling courses, changing instructors, and updating student enrollment permissions.
- Write contracts and process compensation for part-time faculty members.
- Write invitation letters and process honoraria compensation for department guests.

### **Software Engineer, August 2020 – March 2024** **Raytheon Technologies; Richardson, Texas**

- Successfully executed the implementation of new software features using the Java programming language with libraries such as JAXB, Jackson, Esper, and Elasticsearch API.
- Designed custom REST APIs using the Spring framework.
- Utilized test-driven development practices to create JUnit tests for software.
- Managed software projects and packages using the Apache Maven tool.
- Successfully participated in the editing of version-controlled software amongst a team of programmers using the Git version control tool.
- Executed workflows and deployments using the Jenkins DevOps tool.
- Interacted with interfacing software containers and performed troubleshooting for runtime issues using the Rancher platform.

## **Adjunct Instructor – Creative Computing Department, August 2019 – Present**

**Southern Methodist University, Meadows School of the Arts; Dallas, Texas**

***CRCP 1310: Creative Computing I***

***CRCP 3320: Postmodern Software Design***

***CRCP 6310: Introduction to Creative Coding***

- Served as instructor in creative coding classes, which combined engineering, computer science, the arts, and humanities.
- Created and led bi-weekly lectures covering course topics.
- Designed assignments, quizzes, and exams to measure student progress.
- Graded programming assignments and projects.

## **Teaching Assistant – Computer Science Department, August 2017 – May 2019**

**Southern Methodist University, Lyle School of Engineering; Dallas, Texas**

***CSE 1340: Introduction to Computing Concepts***

***CSE 1341: Principles of Computer Science***

***CSE 1342: Programming Concepts***

- Served as a teaching assistant for Computer Science classes, which provided students with an introduction to computer science concepts, program structures, and object-oriented programming.
- Led weekly lab sessions to discuss assignments, review class topics, and answer programming questions.
- Graded programming assignments.

## **Awards**

SMU Bobby B. Lyle School of Engineering, Frederick E. Terman Award in Computer Science Recipient, 2019  
*Recognizing outstanding academic achievement*

## **Special Interests**

- Generative art algorithms
- Computer science pedagogy
- Blockchain technologies and use cases
- Full-stack application development
- Cybersecurity

## **Publications and Conference Presentations**

### **Chord Progressions in Haskell, September 2018**

Demonstration at ACM SIGPLAN International Workshop on Functional Art, Music, Modelling and Design (FARM)

<https://icfp18.sigplan.org/track/farm-2018-papers#event-overview>

### **“Protobyte, Creative Coding and Me”, October 2015**

Online article written for SMU Meadows School of the Arts News

<https://www.smu.edu/Meadows/NewsAndEvents/News/2015/151008-CreativeCoding>

## **Creative Projects**

### **Generative Code Art Library - @batpb/genart, October 2023 – Present**

*Required skills: TypeScript, JavaScript, p5.js, Jest, ESLint, npm, HTML, CSS, Markdown, Bash shell*  
@batpb/genart is a TypeScript compatible library built on p5.js for creating responsive generative art projects. Development of this project is currently ongoing.

<https://brittni-and-the-polar-bear.github.io/generative-art-library/>

### **Color Flow, A Generative Code Art Project; September 2022 – October 2022**

*Required skills: JavaScript, p5.js, HTML, CSS, and blockchain interaction.*

A cluster of shapes whose colors shift and change over time. This project was published as a generative NFT collection on October 2, 2022.

<https://azurepolarbear.github.io/generative-art/color-flow/>

### **Traveling Triangles, A Generative Code Art Project; May 2022 – June 2022**

*Required skills: JavaScript, p5.js, HTML, CSS, and blockchain interaction.*

Starting from a random initial position, a triangle generator creates a trail of randomly colored triangles, where each triangle must share a point with the next one. Older triangles slowly fade away, growing fainter and fainter as time goes on. There can be multiple triangle generators in one piece, and the number of triangle generators on the screen is random. This project was published as a generative NFT collection on June 3, 2022.

<https://azurepolarbear.github.io/generative-art/traveling-triangles/>

### **Gradient Graphs, A Generative Code Art Project; April 2022 – May 2022**

*Required skills: JavaScript, p5.js, HTML, CSS, and blockchain interaction.*

The Gradient Graphs program generates random Gabriel Graphs and Random Geometric Graphs, where the graphs have a random number of nodes, and each node has a random position. Each node is assigned a color, and each edge is colored according to the two nodes at each end, with a gradient line and gradient circle that slowly transition from one color to the other. Users can interact with the project to remove the nodes, edge lines, or edge circles, choosing how they would like the graph to be displayed. This project was published as a generative NFT collection on May 8, 2022.

<https://azurepolarbear.github.io/generative-art/gradient-graphs/>

### **Management of Blog Sites with GitHub Pages, August 2017 – Present**

*Required skills: Markdown, HTML, CSS, Bash shell, GitHub, and Git version control.*

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