

# Nicholas “Eleanor” Rasmussen

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## OBJECTIVE

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Seeking a full-time position in the game development industry to create interactive game systems with a focus on intuitive and seamless player tutorialization

## TECHNICAL SKILLS

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- Programming Languages: C#, Javascript, C++
- Tools: Unity, Git, Photoshop, DaVinci Resolve
- Linear Algebra, Trigonometry, Discrete Mathematics, Statistics

## PROFESSIONAL EXPERIENCE

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### Game Developer

January – May 2020

MAGIC Spell Studios | Rochester Institute of Technology, Rochester, NY

- Pitched, planned, and developed a 2D platforming video game in the Unity game engine
- Worked extensively with physics-based systems to create reactive real-time player movement controls
- Utilized linear algebra, trigonometry, and raycasting techniques to simulate firing a bow and arrow in 2D space, including simulating physical properties of a flying arrow and detecting and handling arrow-to-game-object collisions
- Programmed the boid algorithm to simulate flocks of autonomous agents, modified the algorithm to support game-specific behaviors such as attacking the player and following and protecting a designated flock leader
- Showcased project progress in weekly meetings with program managers
- Gathered, interpreted, and implemented player feedback

### Game Development Instructor

July – August 2019

iD Tech Camps | Allentown, PA

- Taught teenage students week-long game development courses including gameplay programming with C# in Unity, 3D modeling in Autodesk Maya, and level design in Unreal Engine
- Learned new technical skills on a tight deadline

### Software Development Intern

May – August 2018

Link Computer Corporation | Bellwood, PA

- Utilized Windows Task Scheduler to fully automate the monthly transfer of a client's backup data from local storage to Amazon Web Services cloud storage via the execution of a custom script
- Programmed reactive and user-friendly Excel macros in Visual Basic to modify and add data to company spreadsheets, as well as import and export spreadsheet data to CSV files
- Revised a client's survey software to meet updated requirements by writing custom JSON objects which modified the contents of a questionnaire in response to previously answered questions

## EDUCATION

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Rochester Institute of Technology, Rochester, NY  
B.S. in Game Design and Development

August 2023

## STUDENT AND PERSONAL PROJECTS

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### [Player Type Alignment Tesseract](#) | Personal Project

January 2024

YouTube Video

- Wrote, animated, and edited a video aimed at a general audience which explored the mathematical concepts behind tesseracts and higher-dimensional objects
- Produced approximately 12 minutes of animation, including programmed visualizations created with the Unity game engine and video compositing using DaVinci Resolve

### [Redesigning the Hunger Games](#) | Personal Project

November 2023

YouTube Video

- Critically analyzed the Hunger Games from the perspective of a game designer, then suggested and justified changes to the Hunger Games while adhering to in-world limitations
- Wrote a script to exposit my critique and redesign, as well as explain relevant technical details
- Adjusted the script in response to editor feedback
- Produced a video featuring approximately 12 minutes of programmed animations visualizing the technical and mathematical concepts presented in the script

### **Dungeon of the Dragon** | Personal Project

January 2023

Tower Defense Video Game

- Concepted, prototyped, polished, and released a game in 3 days for the Ludum Dare game jam
- Combined in-world nodes, vector normalization, and random number generation to create a semi-predictable but non-deterministic pathfinding system
- Emphasized text-light player onboarding through extensive use of procedural animations and visual feedback in response to player actions
- Utilized the singleton pattern to increase cross-script access to data and functionality

### **D&D Battle Royale** | Personal Project

March 2022 – January 2023

Tabletop Roleplaying Game (TTRPG) Module

- Developed an adventure module simulating the Team-Based Battle Royale video game genre in the Dungeons and Dragons TTRPG ruleset
- Analyzed and modified the rules of Dungeons and Dragons using calculated averages of dice rolls to streamline non-player character behavior, optimize distribution of in-game items, and otherwise push new behavior out of the existing system
- Designed and developed a game map spanning 0.4 square kilometers of in-game space including custom minigames and a map-wide puzzle inspired by recursive programming patterns

### **Croak and Dagger** | Student Project

August – December 2022

Hack n' Slash Video Game

- Collaborated in the Unity game engine as a gameplay programmer on a team of 14 students
- Made extensive use of concepts in linear algebra to create a pendulum-like swing mechanic that could execute in any direction within 3D space
- Wrote detailed technical documentation of the swing mechanic including conceptual explanations, specific code and equation examples, and visual guides
- Worked with an event-based input system, raycasting collision detection, and linear interpolation to create responsive object-pulling that integrated seamlessly with other systems such as combat and AI
- Assisted in creating the game's program architecture