

Kristian Mischke Junior Programmer

231 W. Timonium Rd, Timonium-Lutherville, MD 21093 | 443-875-3124 | [kristianmischke@gmail.com](mailto:kristianmischke@gmail.com) | [kkcoder.net](http://kkcoder.net)

Problem-solver and thinker with just over four years of experience in the industry. I enjoy video game development and am passionate about education and (computational) linguistics.

## Experience

### Data Science Research Intern March 2021 – Present

[RedShred LLC](https://www.redshred.com/), Catonsville, MD

- ree
- ree

### Junior Programmer Jan 2018 – Present

[Mohawk Games LLC](https://www.mohawkgames.com/), Linthicum, MD

- ree
- ree
- ree
- ree
- ree
- ree
- ree

### Quality Assurance Tester June 2017 – Jan 2018

[Mohawk Games LLC](https://www.mohawkgames.com/), Timonium, MD

- ree
- ree

### Waiter July 2016 – June 2017

The Suburban Country Club, Pikesville, MD

- ree
- ree
- ree

### Childcare Teacher/Helper Feb 2015 – May 2016

Grace Fellowship Church, Kids in the Word (KITW), Timonium, MD

- ree
- ree

### Data Science Research Intern March 2021 – Present

RedShred LLC, Baltimore, MD

- Achieved .909 median f1-score with fine-tuned *BERT* and *RoBerta* transformer models on email title classification task, which outperformed the 0.78 of simpler ML models.
- Used [Label Studio](#) to quickly annotate documents for custom datasets involving CV document segmentation and text *NER extraction*.

## Junior Programmer Jan 2018 – Present

### Mohawk Games LLC, Baltimore, MD

- Integrated *mod.io API* into Old World; added support for modding game assets with AssetBundles; and support for Translation mods.
- Developed a Text Manager class integrating Mohawk's localization system with hierarchical text generation (e.g. bullet and comma list building)
- Implemented the in-game "Event Browser" tool in Old World that allows designers and writers to easily modify and create XML files for in-game events.
- Worked on making Old World ready for localization.
- Wrote a tool for Material Property Management. Allows for the tagging of Material files, and one-click updating of the out-of-sync properties of those objects.
- Wrote a [Unity](#) tool for Asset Management that allows developers to observe the dependency relations of Unity assets.
- Used [JIRA](#) task management and [Perforce](#) version control and merged changes in a large repo.

## Quality Assurance Tester Jun 2017 – Jan 2018

- Discovered and reported bugs to the developers & repaired bugs in [Unity 3D](#) and [C#](#) within skill set.

## Education

### University of Maryland, Baltimore County (UMBC) Expected May 2021

Pursuing a B.S. in Computer Science with a focus in Game Development and a Minor in Applied Linguistics.

- 3.936 GPA Outstanding Senior in Computer Science

## Projects

### Lead Designer, Programmer Spring 2021

#### [Recurring Moment](#)

- Time-travel puzzle platformer video game. Game mechanics are inspired by the feature film [Primer \(2004\)](#). Game developed in [Unity 3D](#) and [C#](#). Alpha demoed at [URCAD 2021](#).
- Conceptualized, Pitched, and Prototyped original idea during the first 3 weeks of class.
- Acted as Lead Designer and interfaced with the Art & Programming teams at weekly meetings.
- Implemented core mechanics and sparse data structures to store time-travel data.

### Programmer Spring 2021

#### [GroupFormer](#)

- Webapp for coordinating and forming people into groups. Developed for the CMSC 447 class.
- Developed front-end form for setting up the GroupFormer project using [Django](#), [HTML](#), and [jQuery](#).
- Collaborated with teammates to develop algorithm for scoring participant groupings.
- Integrated Django authentication to secure instructor's forms.

## Applying the Cascaded Finite State Grammar Induction

### Model to Trading Card Game Corpora Fall 2020

#### CMSC 473 Intro to NLP Class @ UMBC

- Proposed the original idea for [this final group project](#).
- Implemented—with a group of 3 peers—a *Grammar Induction* algorithm in [Python](#) from an academic paper that uses a cascaded chunking algorithm with *HMMs*.
- We analyzed model performance using perplexity, and we applied it to Trading Card Games like *Magic: the Gathering*, *Yu-Gi-Oh!* and others.

## Linux Chess Kernel Module Spring 2020

#### CMSC 421 Operating Systems Class @ UMBC

- Implemented the device module in the [C](#) programming language to store and manage chess game state across multiple file pointers; with the option to play against an AI opponent using the min-max with alpha-beta pruning algorithm.
- Only student out of the three sections of the course to complete all the extra credit and be eligible for the course-wide tournament.

## Other Note-Worthy Classes from UMBC

- *Computer Graphics* (Spring 2020) Implemented *ray-tracing* algorithm in [C++](#). Used shaders and GLEW and GLSL to push vertices to the render pipeline. We used [Git](#) version control to track progress.
- *Graphics for Games* (Fall 2020). Navigated the [Unreal Engine C++](#) source code. Projects focused on implementing graphics algorithms as Blueprints, Plugins, and Engine modifications.

## Schess: A Chess Battle-Royal Variant Aug 2020 – Present

#### [schessgame.com](http://schessgame.com)

- Acted as the Lead Programmer during a 48-hour game jam with three other friends.
- Responsible for game-logic, and networking code using Remote Procedure Calls (RPCs) with *Photon Unity Networking (PUN)* in the [Unity 3D](#) game engine.

## Drag'n'Drop Coding Website June 2017 – May 2018

- Created website to showcase my [educational programming videos](#)
- Website had a *Django* backend API and a *React JS* front-end interface.

## Volunteer Work & Clubs

### Keeping Blessing Hill Website 2018 – 2019

- Created [keepingblessinghill.com](http://keepingblessinghill.com) using *Jekyll* & GitHub pages for my grandmother's blog to promote her book.

## Programming HS Volunteer Tutor 2018 – 2020 School Years

#### Crossroads Homeschool CO-OP

- Developed curriculum based off the book *Learning Processing* by Daniel Shiffman.
- Lead class discussions with PowerPoints & live coding and organized labs to enforce problem solving and debugging skills.

## Scratch Programming MS Volunteer Tutor 2016 – 2020 School Years

### Crossroads Homeschool CO-OP

- Taught 7 to 12 students about variables, program flow, and basic problem-solving using MIT's programming language called *Scratch*.
- Integrated my YouTube video tutorials for individualized instruction for the 2018-2020 School Years.

## Club Member & Project Lead Programmer Fall 2018 – Fall 2019

### UMBC Game Developers Club [umbcgamedev.com](http://umbcgamedev.com)

- Participated in club meetings, events, and game jams
- Acted as Lead Programmer for *Role Playing Gamble*, one of the club 2018-2019 games.
- Managed tasks with a group of 2 other programmers throughout the duration of the project, using [Git](#) for versioning & merging and [Unity 3D](#) & [C#](#) technologies for development.