Kristian Mischke

Junior Programmer

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Diligent student with over three years of experience in the industry. Enthusiastic about education and has enjoyed teaching programming basics to middle- and high-schoolers for the past 5 years. My degree focuses on Game Development and I have worked in the industry as a Junior Programmer for a couple years now and have worked on multiple game-jams and hobby projects. I am looking to eventually pursue a master's degree in Computational Linguistics and build a career focused on Natural Language Processing (NLP) and Human Computer Interfaces (HCI).

Experience

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   President's List: Fall 2017 - Fall 2019   Deans' List: each semester

Personal & School Projects

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.
- Git version control was required for this class to track incremental changes.

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). Gained more experience navigating a large codebase, namely the Unreal Engine C++ source. Projects focused on implementing graphics algorithms as Blueprints, Plugins, and Engine modifications.

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

Lego© Robotics MS Volunteer Tutor   **2014 – 2016 School Years**
Crossroads Homeschool CO-OP

- While still in high school, taught the beginner and advanced classes using a pre-made curriculum.
- Guided students through the process of thinking critically when solving problems with the Mindstorms® NXT 2.0 platform.

Club Member & Project Lead Programmer   **Fall 2018 – Fall 2019**
UMBC Game Developers Club 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.