

SKILLS & TOOLS

- Unity | Unreal | Git
- C# | Python | Java | C/C++ | Java Swing
- Tensorflow | Pytorch | FastAI | OpenCV
- SCSS | CSS | React | HTML | Javascript
- IntelliJ IDEA | Pycharm | Rider | Sourcetree
- Krita | Final Cut Pro | After Effects | Sony Vegas
- Zotero | Roam Research | Obsidian

WORK EXPERIENCE

The Coalition
Gameplay Designer
Jan 2022 — Present

Ivy Interactive
Founder
Jan 2020 — Present

Delaware Games Collective
Founder
May 2019 — Present

University of Delaware
Research Fellow
June 2018 — Dec 2021
Virtual Reality Summer Scholar
June 2018 — August 2018
Game Development Intern
May 2017 — August 2017

Golden Egg Labs
Front End Developer
January 2018 (Contract)

SmartyPal
Game Design Intern
February 2017 — May 2017

RESEARCH INTERESTS

Games, human-computer interaction, deep learning, procedural generation, XR

AWARDS

Words for Nerds Finalist. May 2020
The Pitch Project Finalist. Nov 2020
Unidel Distinguished Graduate Scholars Program. May 2019
Lauri Pfeiffer Shinn Memorial Award. May 2019
Power Leveling Program. Dec 2018

EDUCATION

University of Delaware
Computer Science M.S., 2021
Computer Science B.S., 2019
Minor in Entrepreneurial Studies

DESIGN

- NDA Game Design work, The Coalition
- Designed **boss fight game loop and attack patterns** for AlgoTutorBot Boss Battle.
- **Prototyped and designed original board game**, Erupció. **Ran playtests and integrated player feedback** into the design. Designed tile-based gameplay mechanics. Integrated feedback from cultural sensitivity reader.
- Concepted and programmed educational ecological minigame suite with 3 original games for the Delaware Riverkeeper Network.
- **Rapid-prototyped, designed puzzle system, created 3D assets** for potion-brewing VR escape room.

IMPLEMENTATION

- **Developed deep learning pipeline, model** for text-to-character research.
- **Engineered dialogue system** to dynamically create responsive conversations conditional on player choices and actions.
- Experimented with **gesture-based gameplay and interaction** in virtual environments using Leap Motion hand tracking module.
- **Developed AI (machine learning algorithms)** to efficiently classify images and videos for accessibility including exposure to epileptic triggers.
- **Spearheaded dynamic content delivery system** to measure knowledge retention for educational Kinect quiz game, building spreadsheet-to-engine pipeline for designer use and content creation.
- **Introduced a modular and extensible SCSS framework** to style a web application across multiple clients.
- Created Leap Motion based **gesture controls for a First Person Shooter**.

COLLABORATION & COMMUNICATION

- **Led text-to-character-creation project** using deep learning pipeline. **Mentored team of 2** undergraduate and high school student research assistants.
- Compiled and structured **documentation** for open source augmented reality headset.
- **Led student Vertically Integrated Projects team of 5** in designing VR team-based spaceship combat game.
- **Founded game maker meetup group**, hosted virtual and in person events 1-2x a month including playtests, tabletop game jams, indie game book club, and social meetups.
- Received **Distinguished Graduate Scholars Fellowship (\$175,000)**.

SELECTED PROJECTS

Creative Support Tools for Game Developers | Research Project | 2021-2022

- Scoped & developed deep learning BERT text-to-character model to generate video game character assets.

Solo Designer | AlgoTutorBot Boss Battle | PC Video Game | 2021-Present

- Designed, created assets, implemented a computer science theory boss battle game.

Solo Designer | Erupció | Tabletop Board Game | 2020-Present

- Designed and developed Hawai'ian-themed board game. **Top 50 finalist in The Pitch Project out of 600+ entrants**. Oversaw contributions from artist and content sensitivity reader.

Project North Star Contributor | Hardware | 2017-2019

- Built 3D printed augmented reality headset from scratch, streamlined documentation into a more user-friendly website for open source community.