

# IAN MCGRATH

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St. George, UT

[linkedin](#)

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[portfolio](#)

**SKILLS:** JavaScript, Node.js, React, Redux, Ruby, Ruby on Rails, Three.js, jQuery, Ajax, SQL, HTML, DOM, CSS, AWS S3

## PROJECTS:

**ARTCOAG** *Ruby on Rails, ReactJS, Redux, AWS S3, JBuilder, CSS, webpack*

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*Upload artworks, like and comment on other users' artworks; "ArtCoag" an ArtStation clone.*

- Built a screen size-agnostic and responsive index page using CSS media queries to neatly align thumbnails and maximize screen space.
- Ensured performant comment tree structure by building relations between the page, its immediate comments, and recursive child comments in the react front-end.
- Utilized AWS S3 to save and serve user-uploaded images and to seed the database back-end.

**MACHBLITZ** *JavaScript, Three.js, DOM, Blender 3d, Photoshop, Substance Painter, webpack*

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*Get behind the wheel of the fastest racing machines in the galaxy!*

- Leveraged three.js to quickly organize and render 3D assets in canvas and program moving objects with transforms and animations.
- Solved gimbal lock rotation problems inherent in Euler angle rotations by learning about and leveraging quaternions so that rotations are fluid and more naturally manipulated in 3D space.
- Created a responsive user interface using Object Oriented Programming (OOP), DOM manipulation, and CSS resulting in clean and reusable code for fast iteration.

**HOTSPOT** *JavaScript, React, Redux, MongoDB, Mongoose, Express, Axios, AWS*

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*Find new events popping nearby or join groups with a regular event schedule.*

- Collaborated with a team of 3 engineers to quickly put together multiple CRUD features.
- Directed a strong git workflow to maximize productivity and minimize git merge conflicts.
- Designed Mongo queries to return maps of keyable objects rather than arrays resulting in instant look-up time within query results and easier manipulation in the server app code and improving user experience.

## WORK EXPERIENCE:

**Unreal Engine Developer** *Unreal Engine 4, Blueprints, UMG, Blender 3d, Substance 3D, HTML Parser*

[presentation](#) | [award](#)

*Institute for Modeling Collaboration and Innovation (IMCI)*

May 2018 - June 2020

- Lead Unreal Engine application development and collaborated with biomedical researchers to create an educational protein manipulator set in virtual reality.
- Implemented new controller interface schemes to overcome intuition and nausea barriers in virtual reality so that users not familiar with virtual movement could productively move around and manipulate objects within the environment.
- Utilized cinematic systems in Unreal Engine to smooth virtual reality related camera shake and movement to demo the application live at SIGGRAPH Asia 2019.

**UAS Operator / 15W**

*USARMY, Unmanned Aerial System Operator*

August 2009 - July 2015

- Piloted over 100 surveillance missions, 995 recorded flight hours without incident.
- Challenged work safety practices by investing in safety equipment and leading classes to boost confidence and productivity in maintaining ground control equipment.

## EDUCATION:

University of Idaho - *BS Virtual Technology & Design*, 2015 - 2019

AppAcademy - 1000-hour Fullstack Engineering course - 2021