

# Anand Dukkipati

✉ anandrav@umich.edu | 🌐 anandrav | in anand-dukkipati

## Education

### University of Michigan

BACHELOR OF SCIENCE IN COMPUTER SCIENCE, GPA: 3.6/4.0

*Ann Arbor, MI*

*Sep. 2017 - May 2021*

**Coursework:** Data Structures and Algorithms (281), **Operating Systems (482)**, **Object-Oriented Programming (381)**, Programming Languages (490), Computer Security (388), Web Systems (485), Computer Vision (442)

## Experience

### Duo Security

SOFTWARE ENGINEER INTERN

*Ann Arbor, MI*

*May 2020 - Aug. 2020*

- Created iOS UI components using programmatic auto layout constraints written in Swift
- Utilized the model-view-viewmodel (MVVM) pattern to simplify event-driven programming and dependency injection
- Wrote unit tests to ensure UI components store, modify and display data properly
- Wrote layout tests to ensure UI components render properly for various screen dimensions and font sizes
- Fixed bugs in legacy Objective-C storyboards code
- Added metrics for user behavior using Google Analytics for Firebase

## Projects

### AnandCraft

- <https://github.com/anandrav/AnandCraft>
- Created a clone of Minecraft in C++ using OpenGL and SDL2
- Utilized concurrency with a pool of worker threads and job system in order to boost performance
- Utilized features of modern C++ (C++11 and onward) such as lambda expressions, move semantics, smart pointers
- Wrote wrappers around the C-style OpenGL API to make code more object-oriented and memory-safe
- Implemented face-culling optimization for generating terrain meshes in order to boost performance

### Animation Maker

- <https://play.google.com/store/apps/details?id=com.arduk.animationcreator>
- Developed an Android Application available on the Google Play store for drawing traditional frame-by-frame animation
- Designed tools and features such as drawing, making undos/redos, and “onion-skinning”
- Accumulated **6000+ downloads** on the Play Store
- Optimized app performance for new and old Android devices
- Debugged application based on user feedback
- Continuing to add new features, improve performance, and polish UI

### Insta485

- <http://ec2-3-17-131-121.us-east-2.compute.amazonaws.com/accounts/login/>
- Developed a copy of Instagram hosted on Amazon Web Services (AWS)
- Implemented a REST API to simplify requesting resources from webpages
- Created interactive UI and infinitely scrolling front page using ReactJS with JSX
- Implemented SQL database to keep track of user data and posts
- Designed page layout and graphics using HTML and CSS
- Wrote a bash script to automatically reset website content on an hourly basis for demo purposes

## Research

### Future of Programming Lab

HAZEL CONTRIBUTOR

*Ann Arbor, MI*

*May 2020 - Present*

- Implementing unary operators for Hazel, a live functional programming environment that runs incomplete programs

## Skills

**Languages** C++, C, Swift, Objective-C, ReasonML, OCaml, Java, Python, Javascript, HTML, CSS