

# OSCAR DADFAR



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www.cardadfar.com

## Education.

### Carnegie Mellon University



Masters of Science in  
Computer Science  
4.00 GPA May 2022



Bachelor's of  
Computer Science & Art  
3.93 GPA Dec. 2020



Minor in Computer Graphics



Minor in Machine Learning



Minor in Computational Physics

## Skills.

After Effects

Flash Prof.

Premiere Pro

Illustrator

Photoshop

Fresco

Python

JavaScript

C / C++

Obj-C

Swift

HTML / CSS

Real-Time Rendering

Graphics Architecture

Generative Deep Learning

Web App Development

2D/3D Animation

Video Editing

## Coursework.

Computer Graphics & Vision

Parallel Computer Architecture

Deep & Reinforcement Learning

Advanced Computational Physics

Animation Independent Study

Art & Machine Learning



**Mission.** Integrating Animation, AI, & Architecture (3 A's) into smart, high-performance digital tools to help non-artists create art.

## Experience.

more at [cardadfar.com/experience](http://cardadfar.com/experience)



### Research Engineer

Adobe Research | | Summer 2022 - Current

Converting research papers into software in After Effects.

### Professor of Computer Science

Carnegie Mellon University | | Spring 2022 - Current

Offering several courses in the computer science department on topics related to computer graphics, machine learning, and computer architecture.

### Core Animation Intern

Apple | | Spring 2021

Worked on the graphics compositing engine behind every Apple device with a display by developing benchmark statistics to help monitor render pipelines.

### Video Application Intern

Apple | | Summer 2020

Researched and developed real-time shader-based AR filters for iOS with intelligent scene understanding optimized for performance and battery-usage.

## Teachings.

more at [cardadfar.com/index](http://cardadfar.com/index)



### Course Instructor | | Carnegie Mellon University

Computer Graphics | 15-462/662 | Fall 2023

Created a new set of lectures for the course on topics such as vector rasterization, mesh editing, raytracing & kinematics

Visual Computing Systems | 15-469/669 | Spring 2022, Fall 2023

A special topics course at the intersection of computer architecture & computer graphics/vision for graduate and advanced undergraduates

Animation & Video Editing | 98-331 | Fall Semesters

Teaching students video editing, motion graphics, kinetic typography, hand-drawn, & vector-based animation.

Building Personal Websites | 98-177 | Spring Semesters

Created course to teach students fundamentals of HTML, CSS & jQuery while assisting students with building their own sites.

## Papers.

more at [cardadfar.com/projects](http://cardadfar.com/projects)



### 3A2A: 3D-Assisted 2D Animation

< <http://cardadfar.com/assets/projects/3A2A.pdf> />

Converting 2D stick-figure drawings to posable 3D characters that are toon-shaded and sketched to create 2D animations from stick-figures.

ICIG 2021

### Autonomous Environmental Texturing

< [cardadfar.com/projects#gan-theft-auto](http://cardadfar.com/projects#gan-theft-auto) />

Texturing a procedurally-generated semantic-segmented city in Unity using Pix2Pix trained on the CityScape and GTA V dataset.

CCGIV 2021  
Best Presentation

### Japanese Water Shader

< [cardadfar.com/projects#water-shader](http://cardadfar.com/projects#water-shader) />

Developed a toon-based water shader in GLSL that uses laplacians and current/previous-frame heightmap data to determine fragment shading.

### OpenPose Motion Capture Parser

< [cardadfar.com/projects#idance](http://cardadfar.com/projects#idance) />

Built a polygon rendering environment that converts 2D motion capture JSON data into an After Effects readable format.