

# Zane Dufour

## MOBILE

+1 (310) 600-8638

## EMAIL

zanedufour@berkeley.edu

I intend to pursue junior-level software/data engineering positions.

## EXPERIENCE

### Ford Motor Company

Software Lead

Dearborn, MI

February 2020 - Present

I work on the modeling sub-team for Ford's Machine Learning platform. I work with project manager and product owner to define developer enablement and feature development work. Helping my team embrace python best practices (e.g. pytest fixtures, fstrings, tox, pylint, black, poetry).

### Ford Motor Company

Analytics Developer

Dearborn, MI

November 2017 - February 2020

Developed likelihood-to-purchase models for tens of millions of individuals. Helped the team adopt Github for version control. Created a python package to streamline the process of accessing pyspark computing resources. Successfully encouraged team to adopt test-driven-development and static code analysis for our python libraries and flask services.

### Disney Imagineering

Software Engineering

Intern

Glendale, CA

June-September 2017

While working in the Disney Imagineering Media and Art Pipeline group, I developed software used for projection mapping in Disney parks and resorts. I built a continuous integration system for multiple interdependent applications which were used for different parts of the projection mapping pipeline.

### Intel

Software Engineering

Intern

Santa Clara, CA

February-August 2016

During this six month internship at Intel, I developed manufacturing and design tools for the Silicon Photonics group. While on this team, I added an exception-handler and a sqlite logging system. This was the first time I maintained a large code base and learned about writing reusable code.

### UC Berkeley

Research Assistant

Computational Geometry

Summer 2015 - Fall 2016

While working as an undergraduate research assistant, I worked on a spectral geometry morpher in C++ and a Houdini tool for generating parameterized geometry.

## EDUCATION

UC Berkeley,

May 2017

Double Bachelor's – Applied Math and Physics

GPA 3.4

## COURSES

### Machine Learning

Built various machine learning models from scratch in Python w/ NumPy. This included Character Recognition models, SVMs, Neural Networks, Gaussian Discriminant Analysis, Decision Trees and Random Forests.

### Spectral Methods in Computational Fluid Dynamics (Graduate)

Used NumPy to find numerical solutions to Poisson and Navier-Stokes Equations. Implemented Runge-Kutta finite step methods, Fast Fourier and Chebyshev transforms.

### Advanced Linear Algebra

Diagonalizing Matrices; Isomorphic Vector Spaces; Inner product spaces; change of basis; Singular Value Decompositions

### Analytical Mechanics

Lagrangian and Hamiltonian Mechanics; Orbital Mechanics; Chaos and Instability; Rigid-Body kinematics