# MARC MAILLOUX
**Data Scientist**

**Phone** (941) 538-8102
**Address** 1436 Lake Highland Drive
Orlando, FL 32803
**Email** marcmailloux@knights.ucf.edu
**Linkedin** www.linkedin.com/in/mmailloux03

## OBJECTIVE

" To apply my knowledge of machine learning, data mining, and modeling-simulation techniques to advance technology on a cross-disciplinary basis and ultimately build the framework for future doctorate studies. "

## EDUCATION

**UNIVERSITY OF CENTRAL FLORIDA**

**Masters of Science** Modeling and Simulation    May 2019
- Focus: Intelligent Systems and Data Science
- Current GPA: 3.65

**Bachelor of Science** Mechanical Engineering    May 2017
- Senior Project: Micro UAV Design Competition
- UCF Dean's List  Spring '16 & '17, Fall '16

## SKILLS

Python
R
M&S Techniques
Continuous, Discrete, Agent-Based
AnyLogic
Fusion 360
Solidworks
3-Axis CNC Machining
3D Printing

## EXPERIENCE

**Perspectives on Modeling and Simulation**    Aug 2018-May 2019
*Graduate Teaching Assistant*
- Distribute, facilitate, and grade online discussion assignments
- Provide mentorship opportunities for students through open office hours, availability during class hours, and virtual support, totaling 20 hours per week

**Team Solutions Dental Lab**    April 2018-Aug 2018
*3D Printing Intern*
- Maintained and operated the Form2, Kulzer Cara, and Stratasys Objet 3D printers
- Operated Sum 3D CAM Software to mill zirconia crowns using a Roland 50 and 51 six-axis CNC

**Artistic Entertainment Services**    July-Oct 2017
*Project Designer*
- Designed stage show sets for entertainment leaders like Disney and Universal Studios
- Utilized Solidworks 2017 to design 35+ details drawings for in-house fabrication
- Collaborated with clients and the internal team on a daily basis to deliver intended design

**University of Central Florida (UCF) Marine Sea Turtle Research Group**    Apr 2015-Aug 2016
*Engineering Intern*
- Built a submersible class remote operated vehicle, the OPENROV 2.8, for field research
- Researched the use of harmonic radar to find sea turtle egg chambers

## CLASS PROJECTS

**Simulation Techniques**
- Used Python to generate data of a Monte Carlo simulation of Chutes and Ladders board game, applied CDF, and created the visual representation.
- Used Python Mesa and Pillow Libraries to simulate a forest fire with real-world photos. Applied burn lines to simulate spread prevention.

**Machine Learning**
- Built the K Nearest Neighbor Algorithm to analyze Mnist Dataset. Applied k-fold cross validation and developed a sliding window algorithm to optimize the solution.
- Used SVM algorithm to analyze the UCI glass dataset and find the optimal hyperparameters. Implemented a one-vs-one and a one-vs-all approach.

**Data Mining Methodology**
- Analyzed video game sales with 16,500 observations and 11 potential predictors. Developed a model to test on 2016 & 2017 sales data using statistical learning.

**Data Visualization**
- Re-visualized published research data using R to better communicate the research results.
- Analyzed a dataset of real estate rental property information to produce graphs that illustrate net worth, monthly rental income, monthly loan payments, total loan amount.