

# TROY L. CRAWFORD

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## EDUCATION

<b>THE UNIVERSITY OF GEORGIA - TERRY COLLEGE OF BUSINESS</b> , Athens, GA	2020 - 2021
MS - Business Analytics   GPA: 3.92   Summa Cum Laude   IBM Data Science Practitioner Certified	
<b>THE UNIVERSITY OF GEORGIA - FRANKLIN COLLEGE OF ARTS &amp; SCIENCES</b> , Athens, GA	2016 - 2020
BS - Computer Science & Physics   GPA: 3.75   Magna Cum Laude   Dean's List Recipient	

## TECHNICAL SKILLS

- Programming Languages: Python, C++, C, R, MySQL, Java(FX), SAS/SPSS, HTML/CSS, JavaScript, PHP, Fortran
- Frameworks: Machine Learning – [Keras, TensorFlow, PyTorch, Numpy, Pandas], WebDev – [Spring MVC, Bootstrap]
- Other: Git, Tableau, Exploratory, Signavio, AWS S3, LaTeX, Spyder, Eclipse, XCode, Visual Studio, R Studio, MS Office

## EXPERIENCE

<b>CATERPILLAR INC.</b> , Athens, GA	2020 - 2021
<b>Data Scientist - Capstone Consultant</b>	

- Developing market simulators using R and Python to assist in the process of predicting associated time series data
- Applying statistical and ML algorithms to sharpen predictive accuracy for final NRVs of Caterpillar products, assisting accounting in properly reporting earnings at the end of each month and reducing the IRS fees currently imposed

<b>STOCK SCRAPER - PERSONAL PROJECT</b> , Athens, GA	2020 - 2021
<b>Data Analyst, Database Engineer, ML Architect - Creator</b>	

- Scraping, managing and analyzing more than six gigabytes of stock price data with the end goal of constructing LSTM neural networks, CNNs and other predictive models to create a portfolio that outperforms the S&P 500 by 5%
- Estimated stock prices of interest from both technical and fundamental indicators, including social media sentiment

<b>UGA SMALL SATELLITE RESEARCH LAB</b> , Athens, GA	2019 - 2021
<b>Flight Software Engineer - Team Member</b>	

- Wrote flight software in C++ and Python for the Multi-view On-board Computational Imager's ADCS component
- Integrated Unity, a unit testing framework, working within a team of five software engineers, see [smallsat.uga.edu](https://smallsat.uga.edu)

<b>AEVEX AEROSPACE</b> , Quincy, MA	2020 - 2020
<b>Software Engineer - Intern</b>	

- Leveraged various ML techniques to monitor wildfire spread and corresponding monetary damage to buildings in real time at more than 50 fps from aerial footage, spanning over 2544 sq. km.
- Trained the state-of-the-art YOLOv5m model, a type of CNN, upwards of 100 times on varying hyperparameters
- Combined object detecting neural networks and geospatial data manipulation in order to provide the latitude and longitude coordinates of wildfire spread to AEVEX's 3D visualization software, resulting in a demo for a client

<b>UGA PHYSICS &amp; ASTRONOMY RESEARCH GROUP</b> , Athens, GA	2019 - 2020
<b>Physics Researcher, Software Engineer - Primary Author</b>	

- Published a research paper on de-excitation rate coefficients for proton and carbon collisions by using Fortran code

## CAMPUS AND COMMUNITY INVOLVEMENT

<b>Associate Member, ACM / Data Dawgs / Data4Good / Deep Learning at UGA</b> , Athens, GA	2018 - 2021
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- Contributed to and attended roundtable discussions as well as seminars on various computing, data-related and deep learning principles and topics vastly increasing both interest and knowledge for the world of data

<b>Student Participant &amp; Team Member, UGAHacks 5 &amp; 6 / HackGT 6</b> , Athens/Atlanta, GA	2019 - 2021
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- Constructed an iOS application in Swift for using object detection to increase everyday recycling at HackGT 6
- Utilized MySQL, C++ and an Arduino to prototype a device designed for determining air quality at UGAHacks 5
- Won challenge by developing a Chrome extension that assists local businesses affected by COVID at UGAHacks 6

<b>Associate Member, Pi Kappa Phi</b> , Athens/Atlanta, GA	2017 - 2020
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- Accrued over \$20,000 to benefit Children's Healthcare of Atlanta, which provides specialized pediatric care, through partnership with UGA Miracle