# <u>GitHub</u> LinkedIn

# CARL BARBEE

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# **S**UMMARY

NYU Computer Science Master's student with a focus in ML. Experienced software engineer after 5 years at Qualcomm, working with C/C++/Python.

#### **EMPLOYMENT**

## Senior Software Engineer

#### Qualcomm

Jan 2015 - Aug 2019

- <u>Team Bio:</u> Policy Manager is a component of Qualcomm's modem software that dynamically configures the modem based on a variety of signals/indicators.
- Implemented solutions for Operators/OEMs requirements based on customer and telecom standards on the Policy Manager team. (C/C++, Python)
- Led design discussions to deliver robust, scalable solutions and mentored junior engineers in all aspects of the project lifecycle.

## Software Engineer, Intern

#### Qualcomm

May 2014 - August 2014

- Developed an extension of the Off-Target Test Environment for interactive scenario validation and test simulation, e.g., changing the device's location, moving from online to airplane mode. (C/C++, P4)
- Created a Windows Forms application for clients to interactively validate their device and create new test scenarios.

## **EDUCATION**

#### New York, NY

## **New York University**

Aug 2019 - May 2021

Master of Science (MS), Computer Science at Courant Institute of Mathematical Sciences, GPA: 3.8

<u>Courses:</u> Machine Learning, Computational Cognitive Modeling, Big Data Application Development, Distributed Systems, Deep Reinforcement Learning, Realtime and Big Data Analytics

Blacksburg, VA Virginia Tech Aug 2012 – Dec 2014

Bachelor of Science (BS), Computer Engineering, Minors in Computer Science & Mathematics Magna Cum Laude, *GPA*: 3.61; Dean's List 2012-2014

#### **PROJECTS**

<u>Trump Twitter Deviation (Summer 2020):</u> Comparison between President Trump's tweets and Twitter Trending data to determine if he deviates from current major events such as the COVID-19 pandemic, BLM protests, etc. (Hadoop, Hive, Impala, Java)

Predicting Average Adjusted Gross Income (Summer 2020): Predicting Average Adjusted Gross Income (AGI) for each county in the U.S. based on the U.S. Census data: Business Patterns, Demographics, and Educational Attainment. 91% of predications fall within 30% of the target variable with RMSE = 5.5 and R2 = 0.63. (Scala, Spark, Tableau)

*Incorporating Human Prior Knowledge into a Reinforcement Learning Agent for Atari Games (Spring 2020):* Equip an RL agent with the basic components of an Atari game environment using curriculum learning. Our best agent was able to learn to complete a new game 5x faster than regular agents. (PyTorch, Python, PyGame, Tensorboard)

<u>COVID-19 News Analyzer (Spring 2020):</u> Analyze news articles related to COVID-19 based on different metrics: Sentiment Analysis, Emotion Detection, News Articles Categorization, Fakeness. (Python, Scikit Learn, NLTK, Matplotlib, Pandas, NewsPaper3k, BeautifulSoup)

<u>Full Stack Deep Learning Workshop (August 2018):</u> 3-day UC Berkeley workshop on designing and scaling deep learning models presented by Professor Pieter Abbeel. (TensorFlow)

#### LANGUAGES AND TECHNOLOGIES

Proficient: Python, C, Git, Perforce, JIRA, Jupyter

*Familiar:* Scala, Spark, Hive, Impala, SQL, PyTorch, TensorFlow, scikit learn, Keras, C++, Java, Numpy, GCE, AWS, Scipy, Matplotlib, Hadoop, MapReduce