

# Maan Qraitem

mqraitem@bu.com |  @mqraitem

## EDUCATION

---

### Boston University

*Masters/Ph.D in Computer Science*

Boston, MA

*Sep 2020 – Now*

- **Advisors:** Kate Saenko and Bryan A. Plummer
- **Relevant Coursework:** Computer Vision, Deep Learning, Multimodal Learning, Advanced Optimization.

### Colby College

*B.A in Computer Science and Statistics; GPA: 3.97 (Summa Cum Laude)*

Waterville, ME

*Sep 2016 – May 2020*

## PUBLICATIONS

---

- [From Fake to Real: Pretraining on Balanced Synthetic Images to Prevent Bias](#): Maan Qraitem, Kate Saenko, Bryan A. Plummer. In Submission.
- [Bias Mimicking: A Simple Sampling Approach for Bias Mitigation](#): Maan Qraitem, Kate Saenko, Bryan A. Plummer. CVPR 2023.
- [From Coarse to Fine-grained Concept based Discrimination for Phrase Detection](#): Maan Qraitem, Bryan A. Plummer. CVPR Workshop on Computer Vision in the Wild 2023.
- [Bridging the gap: Machine learning to resolve improperly modeled dynamics](#): Maan Qraitem, Dhanushka Kularatne, Eric Forgeston and M. Ani Hsieh. Physica D Journal 2020.
- [Real-time physics-based removal of shadows and shading from road surfaces](#): Bruce A. Maxwell, Casey A. Smith, Maan Qraitem, Ross Messing Spencer Whitt, Nicolas Thien Richard M. Friedhoff. CVPR Workshop on Autonomous Driving 2019.
- [Circadian oscillations persist in low malignancy breast cancer cells](#): Sujeewa S. Lellupitiyage Don, Hui-Hsien Lin, Jessica J. Furtado, Maan Qraitem, Stephanie R. Taylor, Michelle E. Farkas. Cell Cyle 2019.
- [Analyses of BMAL1 and PER2 Oscillations in a Model of Breast Cancer Progression Reveal Changes With Malignancy](#): Hui-Hsien Lin, Maan Qraitem, Yue Lian, Stephanie R Taylor, Michelle E Farkas. Sage 2019.

## WORK EXPERIENCE

---

### Boston University

*PhD Candidate*

Boston, MA

*Sept 2020 – Now*

- Research detection and mitigation of spurious correlations in Computer Vision models as well as representation learning for Phrase Detection. My work was published in CVPR and CVPR workshops.

### Iteris Inc

*Machine Learning Research Intern*

Santa Ana, Cal

*May 2020 – Aug 2020*

- Implement a Graph Neural Nets for traffic prediction which incorporates spatiotemporal traffic data. The method improved performance over in house model by 20%
- Incorporate weather data into the model through an additional CNN branch improving performance by 10%

### GRASP Lab, University of Pennsylvania

*Research Intern*

Philadelphia, PA

*May 2019 – Aug 2019*

- Design and Train Spatio-temporal Recurrent Deep Learning models that effectively bridge the gap between inaccurate equations and ground truth observations
- Generate Spatio-temporal data from variances of the Navier Stokes equations using finite difference solvers.

### Bigelow Lab/Colby College

*Research Intern*

Waterville, ME

*May 2018 – Aug 2018*

- Develop bio diversity vision monitoring systems for coral reefs using state of the art Deep Learning classification and tracking system
- Supervise collecting an image dataset of labeled fish species.

### Colby College

*Research Intern*

Waterville, ME

*May 2017 – Aug 2017*

- Develop and Implement time series analysis algorithms (wavelet transform) to understand the behavior of circadian clocks in cancer cells.

## TEACHING

---

### **Guest Lecturer-Machine Learning CS542**

Boston University, Spring 2023.

Introduced basic deep learning concepts such as backpropagation, neural net design, etc.

### **TA-Machine Learning CS542**

Boston University, Spring 2021, Spring 2022.

Conducted Labs and Office Hours where I covered foundational topics in Machine Learning such as neural Nets, Linear Regression, SVM(s), etc

### **TA-Introduction to Applications Programming CS108**

Boston University, Fall 2020.

Conducted Labs and Office Hours where I covered foundational topics in Computer Science such basic programming logic, recursion, etc.

### **TA-Intro to Probability Theory**

Colby College, Fall 2018.

Conducted Labs and Office Hours where I covered foundational topics in Probability Theory such as basic combinatorics, random variables, probability distributions, Bayesian inference, hypothesis testing, confidence intervals, and linear regression.

## MENTORING

---

**Phoebe Chen** Undergraduate Student, Boston University, 2023

Advised an analysis project of responsible use of ChatGPT for journalism.

## PROFESSIONAL SERVICES

---

### **Reviewer**

CVPR, NeurIPS.

## SKILLS

---

**Programming:** Python (Primary) C, C++ (Secondary)

**Frameworks:** Pytorch, Tensorflow, Numpy, Pandas, Git.

## AWARDS & ACHIEVEMENTS

---

**Charles A. Dana Scholar** Colby College

**Rhodes Scholarship Finalist** Colby College