

# KAIWEN WANG

Email: [kaiwenw1@cs.cmu.edu](mailto:kaiwenw1@cs.cmu.edu) ◇ Cell: 412-403-1101 ◇ Website: <https://kaiwenw.github.io>

## EDUCATION

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**Carnegie Mellon University, Pittsburgh, PA**

Expected May 2020

- Bachelor of Science in Computer Science with an additional major in Math
  - Relevant Coursework: Machine Learning<sup>G</sup>, Algorithms and Data Structures, Distributed Systems<sup>C</sup>, Theoretical CS, Random Graphs<sup>C</sup>, Asymptotic Convex Geometry<sup>G,C</sup>, Real Analysis, Probability
  - Cumulative GPA: 4.00/4.00
- G - graduate, C - currently enrolled

## SKILLS

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**Programming Languages**

Python, C/C++, JavaScript, Go, Standard ML, Java, MATLAB

**Software and Libraries**

Tensorflow/Keras, PySpark, CUDA, NodeJS, D3, Git, L<sup>A</sup>T<sub>E</sub>X

**Spoken Languages**

English (Native), 中文 (普通话) (Native), Français (Fluent)

## EXPERIENCES

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**Intern Engineer**

May 2018 - Aug 2018

*DataVisor, Mountain View, CA*

- Implemented an automated quality monitoring system for core unsupervised machine learning (UML).
- Performed clustering and anomaly detection for seasonal and sporadic time-series data.
- Monitored concept drift of UML, such as an influx of FPs or FNs, in an unsupervised setting.
- Deployed the quality monitoring project as a Web app written in NodeJS using Express and D3.

**Research Assistant**

January 2017 - Aug 2018

*Professor Min Xu's Lab, Carnegie Mellon University, Pittsburgh, PA*

- Developed a novel Monte Carlo method for statistical assessment of CECT template matching, using a 3D variant of the Generative Adversarial Network (GAN), tested on both simulated and real data.
- First-authored paper accepted at computer vision conference BMVC 2018 (acceptance rate 29.9%).

## PROJECTS

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**Classifying Blazars and Cataclysmic Variables (CVs)**

May 2018

- Collaborated with two teammates and achieved state-of-the-art classification accuracy of 90% using PCA and CNNs, for classifying irregularly sampled time-series data of observed light magnitude as either Blazars or CV, with a severely biased and limited dataset.

**Autonomous Mobile Robot (Mobot)**

Apr 2018

- In a team of three, assembled hardware and developed software for an autonomous Mobot capable of outdoors navigation on a non-flat, slalom-style racecourse.
- Created fully automated computer vision reasoning heuristics using OpenCV and PID Controller.
- Won first place overall in the 24<sup>th</sup> annual CMU Mobot Race and received the JPL sponsor prize.

## SELECTED PUBLICATION

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- **Wang K**, Zeng X, Liang X, Huo Z, Xing E, Xu M. Image-derived generative modeling of pseudo-macromolecular structures - towards statistical assessment of electron cryotomography template matching. British Machine Vision Conference (BMVC) 2018. arXiv:1805.04634.