Stanley Wu

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https://github.com/stanleykywu | https://www.linkedin.com/in/stanleykywu/ | https://stanleykywu.github.io/ds-blog/

EDUCATION

NORTHEASTERN UNIVERSITY | BOSTON, MA *Sept. 2019 — Exp. May 2023*

Khoury College of Computer Sciences

Candidate for BS in Computer Science with a concentration in Artificial Intelligence *GPA: 3.9/4.0*

Related Coursework: Special Topics in Machine Learning Security and Privacy, Machine Learning and Data Mining I, Artificial Intelligence, Algorithms and Data Structures, Object Oriented Design, Group Theory, Linear Algebra, Multivariable Calculus, Foundations of Data Science

COMPUTER/WORK EXPERIENCE

Proficient Skills: Python, PyTorch, Tensorflow, Scipy, Sklearn, Computer Vision, Pyspark, AWS, Flask, Java, LaTeX

Familiar Skills: Django, React, MATLAB, C++, C, Linux, Scheme

MACHINE LEARNING RESEARCH ASSISTANT | NORTHEASTERN, BOSTON, MA *Oct. 2020 — Present*

- Submitted a paper to USENIX that presented our findings on membership inference attacks and model updates, focusing on how updates can give an adversary increased insight into a model's training set
- Designed and fine-tuned ML models using Tensorflow and Keras to run membership inference threshold attacks on MNIST, CIFAR-10, and PURCHASE-100 datasets

PYTHON SOFTWARE ENGINEER CO-OP | MORSE CORP, CAMBRIDGE, MA *Aug. 2021 — Dec. 2021*

- Analyzed the robustness of an image anomaly detection algorithms using Pyspark, Scipy, and OpenCV to improve algorithm speed by 50%, and decrease memory consumption.
- Integrated unsupervised machine learning algorithms such as Density-based Clustering and Hierarchical Clustering with anomaly detection and testing for improved spacial filtering on non-circular clusters

DATA SCIENTIST INTERN | PROOFPOINT, DURHAM, NC *May 2021 — Aug. 2021*

- Implemented a pipeline through AWS consisting of a PyTorch based encoder and a classifier that allows threat researchers to catch suspicious webpage screenshots and mark them as phishing attempts
- Investigated and presented to stakeholders the performance capability of deep neural networks, pretrained image nets, boosting/ensemble algorithms, and nearest neighbor classifiers within algorithm pipeline
- Researched the addition of object detection models, including YOLO, SDD, and RCNN, into detection pipeline

SOFTWARE DEVELOPER | SANDBOX AT NORTHEASTERN, BOSTON, MA *Aug. 2020 — Apr. 2021*

- Developed software for Northeastern's faculty and administration as a member of a student-led software organization by collaborating with client groups to understand business needs while providing scalable and targeted solutions
- Created an online computer vision course using React with a team of 6 members, with particular focus on a Gabor Filter crash course and demonstration.

PERSONAL PROJECTS

Crowd Counting: *Apr. 2021*

- Explored density/heat map generation of images with crowds using pretrained image nets and evaluated the effectiveness of the generated density map for estimations of crowd size

Predicting Stock Market Prices with News Sentiment: *Oct. 2020*

- Investigated the effectiveness of daily stock market price prediction with daily news sentiment using Long Short Term Memory, Decision Trees, and Hidden Markov Models