SIYUAN SHI
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EDUCATION

NUAA, Nanjing, Jiangsu, China **Sep2015 – Jun 2019**
Bachelor of Science, Information Engineering, GPA: 3.5/5.00
UW Madison, Madison, USA **Sep 2017 – Dec 2017**
Exchange Program, GPA: 3.75/4.00
NYU, Brooklyn, NY **Sep 2019 – Present**
Program: Master's in Computer Engineering, Current GPA: 3.85/4.00

SKILLS

- Programming Language: C/C++, Python, Django, HTML, MySQL
- Software and Framework: Pytorch, Keras, TensorFlow, MATLAB, Mathematica, Linux, Ryu, Hadoop

WORKING EXPERIENCE

NYU Multimedia and Visual Computing Lab, Brooklyn, New York June 2020 - July 2020
Assistant

- Implemented Classification model of Hyperspectral Image based on 3D Convolution.
- Improved Few Shot Object Detection based on Faster R-CNN model.
- Acquired basic understanding of Meta-Learning by implement Meta R-CNN model.
- Experienced in developing under Linux, including remote coding, remote debugging using pdb, etc.

Zhongxing Telecommunication Equipment Corporation, Nanjing, Jiangsu Aug 2018 - Sep 2018

- Acquired skills in router and switch operation, configuration of various protocols on the telecommunication router ZXR10M6000, Layer 2 switch and Layer 3 switch, including VRRP, OSPF, BGP, etc.
- Learned basic concepts of data communication, routing algorithms and protocols.
- Completed various design experiments and improved the ability to design and debug the communication system.
- Discussed related problems and found solutions with my mentor.

ACADEMIC PROJECTS

CSAW HackML 2020 Backdoor detection, Brooklyn, New York October 2020 - December 2020

- Project aimed at detecting and repairing backdoors in ML model using Keras framework.
- Detect untargeted trigger and/or single or multi targeted trigger in the given test dataset and repair the given backdoored models.
- Implemented backdoor detection using STRIP based on the idea that triggers have strong effect to force a fixed wrong prediction.
- Repaired the models with fine-pruning. Backdoors in the model is disabled by removing neurons that are dormant for clean inputs.

E-mail Spam Filtering, Brooklyn, New York September 2020 – October 2020

- Project aimed at designing an e-mail spam filter on the ling-spam dataset.
- Extracted features based on IG of each word after lemmatization and removing stop-word.
- Implemented 4 Statistical filters: Bernoulli NB classifier with binary features, Multinomial NB with binary features, Multinomial NB with term frequency (TF) features and Support Vector Machine (SVM) based spam filter.
- Achieved adversarial attack and defence on the models based on "Adversarial Classification".

Embedded Challenge Term Project "Embedded Sentry", Brooklyn, New York April 2020 - June 2020

- Project aimed at gesture recording and recognition.
- Implemented on SAMD21 Xplained Pro with an Inertial Measurement Unit MPU6050 integrated, coded on Arduino IDE using C++.
- Sample data of acc and gyro using accelerometer and save data on the microcontroller via I2C.
- Use Kalman filter to smooth the time sequence and DTW (Dynamic Time Warping) algorithm to match patterns in time sequence.

Database System Design and Web-based User Interface, Brooklyn, New York March 2020 - May 2020

- Project aimed at experiencing a full life cycle of Database System development, including planning enterprise modeling, conceptual data modeling analysis, logical database design, database implementation.
- Designed ER model and relational model design with Oracle datamodeler.
- Implemented the designed database system with MySQL DDL (Data Definition Language) and DML (Data Manipulation Language).
- Designed a web-based UI with features such as user login system, data encryption and admin authorization. Implemented with Django framework and Python.