Jerry Liu

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Education

University of Virginia, Charlottesville, VA   **08/2019 – 05/2022**
- **Major:** Computer Science (B.S.)   **Minor:** Applied Math
- **Cumulative GPA:** 3.981   **Major GPA:** 3.967 (Dean's List)
- **Relevant Coursework:** Computer Architecture, Machine Learning, Algorithms, Theory of Computation, Computer Game Design, Program and Data Representation, Digital Logic Design, Discrete Math, Software Development Methods, Ordinary Differential Equations, Probability Theory, Linear Algebra
- **Extracurricular Activities:** Computer and Network Security Club, Machine Learning Club, ICPC, Google Developer Student Club, Student Game Designers, Table Tennis Club

Thomas Jefferson High School for Science and Technology, Alexandria, VA   **08/2015 – 05/2019**
- **GPA:** 4.53 (Advanced Studies Diploma)
- **Relevant Coursework:** AP Computer Science A plus Data Structures, AP Calculus BC, AP Physics C, Multivariable Calculus, Linear Algebra, Artificial Intelligence 1 & 2, Parallel Computing 1 & 2, Computer Vision 1 & 2, Computer Systems Research Lab
- **Awards and Honors:** National Merit Scholar, National AP Scholar
- **Extracurricular Activities:** Computer Team, Machine Learning Club, Computer Security Club, Cross Country

Work Experience/Research

- **An Investigation into using Data Poisoning and PGDAttack during Adversarial Training**   **06/2020 – 09/2020**
  UVA Security Research Group, University of Virginia
  Analyzed different combinations of data poisoning and PGDAttack in adversarial training of a linear SVM using the MNIST 1/7 dataset to investigate if the two adversarial methods amplify or hinder each other during a PGDAttack and entered the corresponding test accuracies to Google Sheets. This project introduced me to cybersecurity in machine learning and how to operate in a research group.
- **Chess Game Tracking via Computer Vision & Deep Learning**   **08/2018 - 05/2019**
  Computer Systems Senior Research Lab, TJHSST   *Alexandria, VA*
  Developed project on chess game tracking using computer vision and deep learning, implementing the Keras, TensorFlow, and OpenCV libraries, using a custom dataset and CNN architecture. Learning from the project introduced me to the basics of computer vision and machine learning.

Projects

- (Sep 2020 – Dec 2020) – Group project for Machine Learning class about predicting car crash severity using traffic data
- (Sep 2020 – Dec 2020) – Group project for Computer Game Design class of a 2d Portal Game created using Unity and written using C#

Skills

- **Programming Languages:** Java (5+ years), Python (4+ years), C++ (4+ years), C (4+ years), HTML (3+ years), JavaScript (3+ years), CSS (3+ years), x86 Assembly (2+ years), Bash (2+ years), R (1+ years), C# (1+ years)
- **Tools:** Eclipse, Visual Studio Code, Vim, Nano, JUnit Testing, GitHub, Unity, Jupyter Notebook, Scikit Learn, Matplotlib, OpenCV, TensorFlow, Keras, Pandas, Seaborn, MATLAB, Mathematica
- **Operating Systems:** Linux, Windows

Certificates

- Coursera: Structuring Machine Learning Projects – 08/19/20
- Coursera: Improving Deep Neural Networks – 08/16/20
- Coursera: Neural Networks and Deep Learning – 08/09/20
- Coursera: R Programming – 07/31/20
- Coursera: The Data Scientist's Toolbox – 07/21/20