# Daniel Silver

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## Education

### Northeastern University — Boston, MA

B.S in Computer Engineering/ M.S in Computer Engineering: Computer Vision, Machine Learning June, 2020

**Master's GPA: 3.93, Undergrad GPA: 3.53, Honors:** Dean's List (Fall '19, Spring '19, Fall '16), 3rd Place Capstone

**Graduate Coursework:** Deep Learning for Embedded Systems, Simulation & Performance Analysis, Machine Learning, Probabilistic Discrete Modeling, Parallel Processing, Data Visualization, Big Data and Sparsity, Software Security

**Undergraduate Coursework:** Algorithms, Object Oriented Design, Capstone, Computer Architecture, Discrete Structures, Embedded Design, Networks, Database Design, Circuits, Differential Equations, Linear Systems, Calculus III

## Technical Skills

Skills: Deep Learning (GANs,CNNs,Triplet Embedding Networks) (**Tensorflow, PyTorch**), Parallel Computing (**Apache Spark**), NLP (**PyTorch**,**Scikit-learn**,**Snorkel**), Computer Vision (**Open CV**), Virtualization (**Docker,VmWare,PyEnv**), Version Control (**Git, Alembic**), Linux (**Debian-based**, **CentOS**, **Raspberry Pi**), AWS (**S3,EC2**), APIs (**Flask**), Vim
Programming Languages**:** CPython, Java, SQL, C++, LaTeX, MIPS Assembly, Verilog, Bash, PowerShell

## Work Experience

### Lux Research — April 2019-August 2019

Data Science & Software Engineering Intern

- Utilize NLP algorithms along with other optimizations to score over one million companies for internal purposes
- Train and compare different NLP models (**Naive-Bayes**, **SVM**, etc.) for ranking companies based on text
- Analyze the entire Wikipedia corpus for **topic modeling**
- Create machine learning APIs (**Flask**) and put it into production though the full stack from start to finish

### Air Force Research Lab, Information Doctrine — July 2018-December 2018

Machine Learning Research Assistant

- Generated artificial images and audio samples using GANs with CNNs (**Tensorflow**)
- Created texture generalizations for reinforcement learning using auto-encoders
- Transfered image style from one set of images to another using Cycle GANs
- Implemented algorithms from different research papers and document results for the Air Force Research Lab
- Preformatted audio and image data to optimize learning for deep neural networks (**Pandas**, **NumPy**, **Pickle**)
- Utilized LSTMs for sequence to sequence mapping

### Action Lab, Northeastern University — September 2017-April 2018

Computer Vision/Software Engineering Intern

- Optimized programs for color tracking (**Open CV**)
- Created augmented reality games for data acquisition (**Pygame**)
- Analyzed movement and stability data to assist children with muscular disorders
- Improve efficiency of object tracking by optimizing HSV masks
- Built GUIs (**PyGUI**) for accessibility and easing customizable run configurations
- Calibrated cameras to eliminate distortion in precise motion tracking

### Virtual Operations — May 2017-July 2017

IT Automation Intern

- Developed scripts (**Bash**, **PowerShell**, and **Python**) to automate IT services for over 600 hundred computers
- Created salted hashes (**Node JS** and **PowerShell**) to generate bearer tokens to ensure security for API requests
- Designed custom web apps and reports using multiple 3rd party REST APIs to expand reporting capabilities beyond the software's standard capabilities.