Justin J. Serowik

OBJECTIVE:

Obtain a Full-time position in Deep Learning Research

EDUCATION

Stevens Institute of Technology, Hoboken, NJ
August 2013 - December 2018

Bachelors of Engineering in Electrical Engineering,
Graduated May 2017
Honors: Edwin A. Stevens Scholarship, Stevens' Grant, Dean's List

Masters of Science in Computer Engineering,
Expected December 2018
GPA: 3.48, Graduate Certificates in Deep Learning, Cybersecurity

Coursework
Applied Machine Learning, Deep Learning, Data Acquisition/Proc, Pattern Recognition & Classific., Advanced Algorithm Design & Implementation, Discrete Math for Cryptography, Probability and Statistics, Computer Organization & Programming, Calculus 1-2, Differential Equations, Engineering Design 1-8, Microprocessor Systems, Digital & Computer System Architecture, Transport Phenomena in Solid State Devices, Digital System Design, Digital Signal Processing, Introduction to VLSI Design

WORK EXPERIENCE

The MITRE Corporation, Aberdeen, MD
Communications Network Engineering Graduate Intern
May 2018 - Present

- Designing and building different variations of Neural Network models such as Convolutional Neural Networks, Recurrent Neural Networks, and Capsule Neworks
- Training, validating, tuning hyperparameter, and testing models on highly complex Big Data sets using Tensorflow and Keras
- Preprocessing and parsing data using Python libraries to assure accuracy and performance of subgroups of the Big Data set
- Creating custom Docker environments for Machine Learning
- Programming custom software libraries and machine level code for live Deep Learning classification on embedded systems such as the Nvidia Jetson TX2
- Writing a technical paper on work completed to be published

Stevens Institute of Technology, Hoboken, NJ
Senior Design - Neural Network Security
August 2016 - May 2017

- Trained a Dense Feed-Forward Neural Network to detect anomalies in wireless communications and prevent man-in-the-middle attacks using only wireless signal attributes to preserve user privacy
- Developed an application interface for the neural network for live classification

SKILLS

Programming

Python (2.X + 3.X), CUDA, Matlab, R, C++, Java, VHDL, Verilog, Bash, HTML, CSS, JavaScript, jQuery, Basic

Operating Systems

Windows XP, Vista, 7, 8.1, 10;
Mac OS X Yosemite;
Linux: Ubuntu 16.04 + 18.04, Kali, Arch;

APIs

Keras, TensorFlow, NLTK, Jupyter, Pandas, Spark, Numpy, Scipy, Matplotlib, Scikit-Learn

Software

Docker, SolidWorks, Android OS, Git, Parature, Firebug, JetBrains, Sublime Text
MS Office: Word, Excel, PowerPoint;
Adobe: Photoshop 6, Flash, Dreamweaver;

Machine Learning Concepts

Computer vision, Time-series data, Natural Language Processing (NLP), Semi-supervised learning, Generative data creation

PROJECTS

Memetic Detection using Live Screen Captures

August 2017 - December 2017

- Trained R-CNN with Tensorflow Object Detection API capable of detecting images of "memes", viral photos with a specific message or parody, on a live screen capture of a social media feed
- Able to distinguish memetic images from normal images that contained similar characteristics, like advertisements
- Wrote scripts to scrape and collect images used for training from image search engines

- Processed wireless communication signals and extracted useful attributes to input into neural network
- Used auxiliary data not processed by Neural Network to provide additional user context, such as local cell tower station identification and verification

Finalsite, Hoboken, NJ
User Support Co-Op
May 2014 - December 2014

- Cooperated with team members to produce web solutions built on the Schoolsuite platform
- Implemented advanced web technologies such as responsive design and jQuery to enhance user experience on the Silverpoint platform
- Developed and updated specialized Android and iOS apps for individual clients
- Edited full websites using Dreamweaver and integrated new code into existing projects using Git
- Supported client requests through Parature ticketing service and troubleshooted

RESEARCH EXPERIENCE

Thesis in Deep Learning
January 2018 - Present

- Conducting research on the feasibility of a Generative Adversarial Network architecture made purely from Capsule Neural Networks
- Writing a thesis on successful implementations Capsule Networks in generating new images from latent space
- Experimenting with expanding the robustness of image synthesis by tuning the generative architecture and balancing training
- Programming custom model architectures using Keras and Tensorflow

Text Processing and Sentiment Analysis
February 2016 - September 2016

- Implemented large scale text data extraction from online news sites
- Wrote Python scripts to process raw text data from news sources
- Used Natural Language Processing to extract named entities from text data and associated positive, negative, or neutral sentiment from data with extracted named entities
- Used Python and Bash to streamline labeling and data sanitation process

Music Recommendation System
August 2017 - December 2017

- Wrote a python program that recommended new song selections for theoretical users based on previous song ratings as a class project
- Used ensemble techniques to help boost accuracy after receiving back scored recommendations

LEADERSHIP EXPERIENCE

President of the Stevens IEEE Student Chapter
May 2016 - May 2017

- Organized weekly meetings that included professional and technical workshops that encouraged collaborative and hands-on interaction
- Planned large events including student project exhibitions, cross university collaborations, and professional networking events
- Motivated student body members to grow and develop their skills in Electrical and Computer Engineering

MORE ABOUT ME

Activities:
Music, Film, Hobby Electronics, Photography, Hiking, Skiing

Languages:
English: Fluent
Polish : Fluent

I am a citizen of the United States