

Farzad Shahabi

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OBJECTIVE	Seeking a full-time position where extensive skills in <i>machine learning</i> , <i>cybersecurity</i> , <i>deep learning</i> , and <i>statistical data analytics</i> are assets.	
EDUCATION	University of South Florida , Tampa, Florida Master of Science in Data Analytics and Security Department of Electrical Engineering, <i>GPA: 3.97</i> Advisor: Dr. Nasir Ghani	2017-2019
	University of Kerman Bachelor of Science Department of Electrical Engineering, <i>GPA: 3.73, Summa Cum Laude</i> Advisor: Dr. Kambiz Afrooz	2012-2017
PROFESSIONAL EXPERIENCE	Data Scientist Intern, Alliance Data - Precima Inc. Chicago, Illinois <ul style="list-style-type: none">Extracted, cleaned, and transformed customer and item-level data for purposes of analysis, modeling/segmentation, optimizationImplemented advanced predictive machine learning and deep learning models leveraging statistics, mathematics and econometrics to support business objectives Framework: (SQL, Pandas, Matplotlib, Keras, Scikit-learn, Amazon Redshift, PuTTY)	08/2019-12/2019
	Research Assistant, University of South Florida <ul style="list-style-type: none">Optimized Noise Distribution Mechanisms for Local Differential Privacy(LDP) for Machine Learning Applications<ul style="list-style-type: none">Increased the classification accuracy on perturbed data vs. Direct Encoding LDP MechanismTested on distance-based classifiers (SVM, KNN)Privacy-preserving Machine Learning Techniques Using Dimensionality Reduction (<i>DARPA-Brandeis Program</i>)<ul style="list-style-type: none">Developed privacy-preserving machine learning algorithms by different matrix projection methodsInvestigated the utility and privacy tradeoff with supervised learning techniques, such as Linear Discriminant Analysis (LDA) and Discriminant Component Analysis (DCA)Time-series Data Analysis and Prediction for Call Detail Record (CDR) Data<ul style="list-style-type: none">Data analysis stage includes cleaning, resampling, shifting and lagging.Prediction stage includes using deep learning networks (LSTM, GRU, 1D ConvNet), machine learning models (Linear Regression, Support Vector Regression) and Hidden Markov and Autoregressive Models Framework: (Scikit-learn, NumPy, SciPy, and Pandas)	08/2017-08/2019
SELECTED KEY PROJECTS	Senior Design Projects: <ul style="list-style-type: none">Live Image Detection Application Convolutional Neural Networks<ul style="list-style-type: none">Created a dataset named "Hand's Pattern Recognition" with more than 6000 samples utilizing augmentation techniquesDesigned a deep CNN validated, fine-tuned, and tested on the proposed data set	

- Validated and tested the proposed data set on popular deep CNN's, e.g., Resnet50, VGG19, and InceptionV4 by utilizing the concept of Transfer Learning
- Developed a real-time CNN image detection platform counting the number of fingers through Webcam using Alexnet, <https://youtu.be/Hu2gUIZqR5Q>

Framework: Python (Tensorflow, Keras), Matlab

- Using Compressive Sensing concept for image denoising in detect/counter adversarial image generation methods (FGSM, JSMA, DeepFool) in deep CNN architectures.

Framework: Python (Tensorflow, FoolBox)

- Designed a smart dictionary attack strategy to crack passwords hashed by SHA-1 implemented in Python
- Created deep reinforcement learning application for solving a maze using Q-Learning implemented in Python
- Implementation of Feature Selection (Information Gain, Relief F, and Fast Correlation-Based Method) and Feature Extraction (PCA, Laplacian Eigenmaps) Techniques on High dimensional Micro-array Dataset

PUBLICATIONS

- Mohammed Jasim, Farzad Shahabi, "Deep Learning for Fast Initial Access in Millimeter Wave Communications", Submitted, IEEE Globecom 2019
- Mohammed Jasim, Farzad Shahabi, "LSTM method for Millimeter Wave Beamforming", Submitted, IEEE Access, 2019
- Optimized/Enhanced Direct Encoding Mechanism for Local Differential Privacy for Machine Learning Applications, To be Submitted
- Privacy-preserving SVD-based Image Compression, To be Submitted

TECHNICAL SKILLS

Programming Languages: Python, R, C/C++, Java
Python Packages: Scikit-Learn, Numpy, Scipy, Pandas, Matplotlib
Frameworks:Tensorflow, Keras, OpenCV, Pytorch
Softwares: Matlab, Simulink, LaTeX
Data Management: MySQL, Hadoop, AQT, Amazon Redshift, WinSCP
Operating Systems: Linux, Windows

RELEVANT COURSES

Courses	Grade
Advanced Data Analytics	A-
Deep Learning	A+
Statistical Inference	A+
Network Science	A+
Random Process	A+
Cryptography and Data Security	A+
Robotics and AI	A+

AWARDS

- Graduate Research Assistantship Aug 2017 to Aug 2019
- Graduated Summa Cum Laude in Bachelor's Degree From UK
- Ranked First Graduating from National Organization of Exceptional Talents
- Achieved PASTB Scholarship for Graduate Studies in Electrical Engineering

AFFILIATIONS

- Membership in Tau Beta Pi, the Engineering Honor Society, on Academic Excellence
- Student Membership in Institute of Electrical and Electronics Engineers (IEEE)