

SUMMARY	Computer Scientist working in Data Mining with 5+ years research experience seeking full-time opportunities	
EDUCATION	Northwestern University , Evanston, Illinois USA [GPA: 3.7 / 4.0]	Jun 2019
	Ph.D. Candidate, Computer Engineering	(expected)
	Master of Science, Computer Science	Sep 2014
	Birla Institute of Technology & Science , Pilani, Rajasthan India	
	Master of Engineering (with Honors), Software Systems, May 2012	May 2012
	Bachelor of Engineering (with Honors), Chemical Engineering, Dec 2009	Dec 2009
PROGRAMMING SKILLS	Proficient: Python, Keras, Scikit-Learn, Tensorflow, Selenium, PySpark Familiar: R, MATLAB, C, C++, Java, PHP, LAMP, SQL, weka, Gephi, Javascript, html, css, Hadoop, Mahout, MPI	
PROFESSIONAL EXPERIENCE	<i>Data Science Intern</i> , Northwestern Mutual , Milwaukee, Wisconsin	Jun - Aug 2018
	◊ Developed distributed image to text conversion algorithms for detecting responses from scanned questionnaires	
	◊ Developed a noise reduction algorithm to denoise scanned and photocopied questionnaires	
	<i>Research Intern</i> , Boeing Cybersecurity (Narus) , Sunnyvale, California	Jun - Sep 2013
	◊ Generated synthetic user profiles with different demographic and interest features for analyzing ads across profiles	
	◊ Developed a machine learning model for predicting user demographics and interests from ads	
RESEARCH PROJECTS	<i>Research Assistant</i> , Northwestern University , Evanston, Illinois (2012 -)	
	• Deep Learning-based Predictive Model for Additive Manufacturing (Tensorflow, Keras)	Nov 2016 -
	◊ Created time series models for temporal analysis of heat flux data	
	◊ Investigated Recurrent Neural Network models to predict point-wise temperature information for accelerating additive manufacturing simulations	
	• Solar Cell Efficiency Prediction using Molecular Fingerprints (Tensorflow, Scikit Learn)	Mar 2016 -
	◊ Developed a multi-input input neural network architecture by merging different molecular representations as inputs for predicting chemical properties that outperformed other state-of-the-art models	
	◊ Designed Deep Neural Network and Random Forest models for predicting power conversion efficiency of solar cells using chemical fingerprints, and achieved mean square percentage error between 1.5-2 %	
	• Ensemble Learning-based Guided Optimization for Aircraft Design (MATLAB, Python)	Oct 2015 - Dec 2017
	◊ Created intelligent sampling algorithms to explore the constrained search space for candidate microstructures (constrained non-convex optimization problem)	
	◊ Achieved 100x more solutions compared to state-of-the-art methods that can accelerate the design-to-experiment life-cycle	
	• Convolutional Neural Nets for Thematic Image Classification in Pinterest (Torch)	Oct 2015 - Sep 2016
	◊ Harnessed Association Rule Mining for thematic label curation	
	◊ Developed ConvNet Models for hierarchical classification that led to automated image categorization based on themes	
	• Classification of Anonymous Posts using Recurrent Neural Networks (Tensorflow)	Jan 2015 - May 2016
	◊ Generated vectorizer models using Word2vec trained on crowd-sourced (Urban Dictionary) & psycho-lingual (LIWC) dictionaries(Gensim)	
	◊ Attained prediction accuracy of 79.8 % and 78.1 % using LSTMs and ensemble models respectively	
SELECTED TEACHING AND LEADERSHIP	<i>President/Vice-President/Treasurer</i> , Northwestern Toastmasters	Sep 2015 -
	◊ Lead the Northwestern chapter of Toastmasters; over 30 graduate students, post doctoral fellows from 10 departments	
	◊ Organized 1.5 hour weekly meetings to improve student public speaking skills	
	<i>Teaching Assistant & Guest Lecturer</i> , Northwestern University	Jan 2014- June 2017
	◊ Prepared and delivered weekly lectures for multiple courses to 20-50 students	
FELLOWSHIPS	Predictive Science and Engineering Design Fellowship	2016-2017
	Segal Design Fellowship	2014-2015
	Walter P. Murphy Fellowship	2012-2013
RECENT PUBLICATIONS (4 OF 13)	A. Paul, D.Jha, R. Al-Bahrani, W. Liao, A. Choudhary and A. Agrawal. "CheMixNet: Mixed DNN Architectures for Predicting Chemical Properties using Multiple Molecular Representations", <i>NIPS Workshop on Machine Learning for Molecules and Materials</i>, 2018	
	D.Jha, L.Ward, A. Paul, W. Liao, A. Agrawal, A. Choudhary and C. Wolverton. "ElemNet: Deep Learning the Chemistry of Materials From Only Elemental Composition", <i>Nature Scientific Reports</i>, 2018	
	M.Mozaffar, A. Paul, R. Al-Bahrani, S. Wolff, A. Choudhary, A. Agrawal, K. Ehmann and J.Cao. "Data-Driven Prediction of the High-Dimensional Thermal History in Directed Energy Deposition Processes via Recurrent Neural Networks", <i>Manufacturing Letters</i>, 2018	
	A. Paul, P. Acar, R.Liu, W. Liao, A. Choudhary, V.Sundararaghavan and A. Agrawal. "Data Sampling Schemes for Microstructure Design with Vibrational Tuning Constraints", <i>Journal of American Institute of Aeronautics and Astronautics</i>, 2018	