

Arindam Paul

(440) 622-1087 | apaul@u.northwestern.edu | arindampaul.me | linkedin.com/in/arndmpaul/

SUMMARY	Computer Scientist working in Machine Learning with 8+ years research experience seeking full-time
EDUCATION	Northwestern University , Evanston, Illinois USA Jul '19 (expected) Ph.D. Candidate, Computer Science Sep '14 Master of Science, Computer Science
	Birla Institute of Technology & Science , Pilani, Rajasthan India Master of Engineering (with Honors), Software Systems May '12 Bachelor of Engineering (with Honors), Chemical Engineering Dec '09
PROGRAMMING SKILLS	Proficient: Python, Keras, Scikit-Learn, NLTK, Gensim, Tensorflow, Selenium, XGBoost Familiar: OpenCV, PySpark, R, MATLAB, C, C++, Java, SQL, weka, Javascript, HTML, CSS
SELECT PROFESSIONAL EXPERIENCE	<i>Data Science Intern</i> , Northwestern Mutual , Milwaukee, Wisconsin Jun - Aug 2018 <ul style="list-style-type: none">◊ Developed distributed image to text conversion algorithms from scanned questionnaires◊ Designed a noise reduction algorithm to denoise scanned and photocopied questionnaires <i>Research Intern</i> , Boeing Cybersecurity (Narus) , Sunnyvale, California Jun - Sep 2013 <ul style="list-style-type: none">◊ Generated synthetic profiles with different demographic features for comparing ads across profiles◊ Developed a machine learning model for predicting user demographics and interests from ads
SELECT RESEARCH PROJECTS	<i>Research Assistant</i> , Northwestern University , Evanston, Illinois 2012 - <ul style="list-style-type: none">● Deep Learning-based Predictive Model for Additive Manufacturing (Tensorflow, Keras)<ul style="list-style-type: none">◊ 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)<ul style="list-style-type: none">◊ 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 Ensemble and Deep Neural Network 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)<ul style="list-style-type: none">◊ 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● Classification of Anonymous Posts using Urban Dictionary (Scikit Learn, Keras)<ul style="list-style-type: none">◊ Developed custom vector representations using crowd-sourced (Urban Dictionary) & psycholinguial (LIWC) dictionaries (Gensim)◊ Attained prediction accuracy of 79.8 % and 78.1 % using ensemble models and LSTMs respectively
SELECT TEACHING & LEADERSHIP	<i>President/Vice-President/Treasurer</i> , Northwestern Toastmasters Sep '15 - May '18 <ul style="list-style-type: none">◊ 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 '14- <ul style="list-style-type: none">◊ Prepared and delivered weekly lectures for multiple CS courses (Data Structures, Social Media Mining, Intro to Python) to 20-50 students
FELLOWSHIPS	McCormick Dean's Commendation Fellowship '18 Spring Predictive Science and Engineering Design Fellowship '16-'17 Segal Design Fellowship '14-'15 Walter P. Murphy Fellowship '12-'13
SELECT PUBLICATIONS (3 OF 14)	"Transfer Learning Using Ensemble Neural Nets for Organic Solar Cell Screening" , <i>International Joint Conference of Neural Networks, 2019</i> "CheMixNet: Mixed DNN Architectures for Predicting Chemical Properties using Multiple Molecular Representations" , <i>NeurIPS, 2018</i> "ElemNet: Deep Learning the Chemistry of Materials From Only Elemental Composition" , <i>Nature Scientific Reports, 2018</i>