

## Arindam Paul

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SUMMARY	<b>Computer Scientist</b> working in <b>Machine Learning</b> with 8+ years research experience seeking full-time	
EDUCATION	<b>Northwestern University</b> , Evanston, Illinois USA Ph.D. Candidate, Computer Engineering (expected) Master of Science, Computer Science <b>Sep '14</b>  <b>Birla Institute of Technology &amp; Science</b> , Pilani, Rajasthan India Master of Engineering (with Honors), Software Systems <b>May '12</b> Bachelor of Engineering (with Honors), Chemical Engineering <b>Dec '09</b>	
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> , <b>Northwestern Mutual</b> , Milwaukee, Wisconsin <b>Jun - Aug 2018</b> ◇ 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> , <b>Boeing Cybersecurity (Narus)</b> , Sunnyvale, California <b>Jun - Sep 2013</b> ◇ 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  <i>Research Assistant</i> , <b>Northwestern University</b> , Evanston, Illinois <b>2012 -</b>	
SELECT RESEARCH PROJECTS	<ul style="list-style-type: none"> <li>• Deep Learning-based Predictive Model for Additive Manufacturing (Tensorflow, Keras)               <ul style="list-style-type: none"> <li>◇ Created time series models for temporal analysis of heat flux data</li> <li>◇ Investigated Recurrent Neural Network models to predict point-wise temperature information for accelerating additive manufacturing simulations</li> </ul> </li> <li>• Solar Cell Efficiency Prediction using Molecular Fingerprints (Tensorflow, Scikit Learn)               <ul style="list-style-type: none"> <li>◇ 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</li> <li>◇ 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 %</li> </ul> </li> <li>• Ensemble Learning-based Guided Optimization for Aircraft Design (MATLAB, Python)               <ul style="list-style-type: none"> <li>◇ Created intelligent sampling algorithms to explore the constrained search space for candidate microstructures (constrained non-convex optimization problem)</li> <li>◇ Achieved 100x more solutions compared to state-of-the-art methods that can accelerate the design-to-experiment life-cycle</li> </ul> </li> <li>• Classification of Anonymous Posts using Urban Dictionary (Scikit Learn, Keras)               <ul style="list-style-type: none"> <li>◇ Developed custom vector representations using crowd-sourced (Urban Dictionary) &amp; psycholinguistic (LIWC) dictionaries (Gensim)</li> <li>◇ Attained prediction accuracy of 79.8 % and 78.1 % using ensemble models and LSTMs respectively</li> </ul> </li> </ul>	
SELECT TEACHING & LEADERSHIP	<i>President/Vice-President/Treasurer</i> , <b>Northwestern Toastmasters</b> <b>Sep '15 - May '18</b> ◇ 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 &amp; Guest Lecturer</i> , <b>Northwestern University</b> <b>Jan '14-</b> ◇ 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 <b>'18 Spring</b> Predictive Science and Engineering Design Fellowship <b>'16-'17</b> Segal Design Fellowship <b>'14-'15</b> Walter P. Murphy Fellowship <b>'12-'13</b>	
SELECT PUBLICATIONS (3 OF 14)	<b>"Transfer Learning Using Ensemble Neural Nets for Organic Solar Cell Screening"</b> , <i>International Joint Conference of Neural Networks</i> , 2019  <b>"CheMixNet: Mixed DNN Architectures for Predicting Chemical Properties using Multiple Molecular Representations"</b> , <i>NeurIPS</i> , 2018  <b>"ElemNet: Deep Learning the Chemistry of Materials From Only Elemental Composition"</b> , <i>Nature Scientific Reports</i> , 2018	