Disha Dasgupta

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EDUCATION

Stanford, CA **Stanford University** **September 2016 – June 2020**

- Major in Data Science, Markets, and Management (Quantitative Social Science)

Relevant Coursework

- **Computer Science/Math**: Probabilistic Analysis ▪ Applied Statistics (Paper) ▪ Programming Methodology using Java ▪ Programming Abstractions using C++ ▪ Computing in Python ▪ Mathematical Foundations of Computing ▪ Game Theory & Economic Applications ▪ Linear Algebra & Multivariable Calculus
- **Data Science**: Deep Learning (Paper) ▪ Applied Machine Learning (Paper) ▪ High-Dimensional Data Analysis & Machine Learning Methods ▪ Data Science ▪ Social Networks using R ▪ Data Analysis with Stata
- **Cognitive/Social Science**: Research Methods ▪ Cognitive Neuroscience ▪ Theoretical Neuroscience ▪ Biology of the Brain ▪ Economic Sociology ▪ Social Psychology ▪ Philosophy of Action, Language, & Mind
- **High School (2012-2016):** Linear Algebra & Multivariable Calculus ▪ AP Calculus BC ▪ AP Statistics ▪ AP Physics C ▪ AP Biology ▪ AP Chemistry ▪ **ACT**: 36

TECHNICAL SKILLS

- Python (Keras, TensorFlow, SciKit-Learn, SpaCy, PyGame) ▪ R (dplyr , ggplot, tydyverse, knitr) ▪ Java ▪ C++ ▪ SQL ▪ Machine Learning (Linear / Logistic Regression, Convolutional Neural Network (CNN), Support Vector Machines) ▪ HTML ▪ JavaScript ▪ Stata ▪ SAS ▪ MATLAB

EXPERIENCE

Research Assistant **Stanford Causality in Cognition Lab** **August 2018 – Present**

- Developing computational models using Python to determine counterfactual reasoning & scenario backtracking (Site)
- Creating quantitative models for cognitive interpretations of how human beings assign blame and responsibility based on their perceptions of others

Data Science Intern **Endgame, Inc (AI Based Cybersecurity)** **June 2019 – Present**
June 2018 – August 2018

- Designed a malware classification model using a Convolutional Neural Network (CNN) to detect benign and malicious files without opening them. Created a Web API to make the model accessible online. (Presentation)
- Increased performance of malware classifiers by retraining classifier models and comparing Area under the Curve (AUC) values
- Quantified predictive performance degradation for machine learning models by implementing gradient boosting, random forest, and linear regression algorithms for Endgame malware classifier database (Paper)
- Improved interpretability for malware classification models by using game theory to quantify the effect of individual model features on final prediction (Paper)
- Improved performance of AI based cybersecurity chatbots with natural language processing (NLP) techniques

Research Intern **Air Force Research Laboratory** **June 2017 – September 2017**

- Reduced aircraft ejection risk injury by improving mathematical risk injury prediction models
- Built statistical algorithms to determine the feasibility of extrapolating seat-based models to human based injury data

Research Intern **Broad Institute of Harvard and MIT** **June 2015 – August 2015**

- Improved drug binding specificity by computationally analyzing analogous kinase pairs (Site)

Research Assistant **University of Kansas** **Summer 2011 – 2014**

- Performed neuroscience research to analyze CALM-1 gene and Tau Protein mutations for curing traumatic brain/spinal cord injuries and Alzheimer's disease

ADDITIONAL ACHIEVEMENTS

- Published in *NeuWrite West*, Stanford's Neuroscience Blog (Paper);
- Participated in **Research Science Institute** (50 out of ~1500 applicants) at MIT
- Mentor – Girls Teaching Girls to Code