

# Navid Ardeshir

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CONTACT INFORMATION	Columbia University Department of Statistics New York, NY	navid.ardeshir@columbia.edu <a href="https://github.com/scO0rpion">https://github.com/scO0rpion</a> <a href="https://mathblasphemy.netlify.app">https://mathblasphemy.netlify.app</a>
RESEARCH INTERESTS	<b>Statistical Machine Learning:</b> Towards understanding the generalization properties of overparameterized models. <b>Probability:</b> Applications of optimal transport theory in non-convex optimization and machine learning. In particular, mean field description of wide neural networks.	
EDUCATION	<b>Columbia University, NY</b> Ph.D. in Statistics (2019-2024) <ul style="list-style-type: none"><li>• Current GPA: <b>4.10</b></li><li>• Advisors: Prof. Daniel J. Hsu, Prof. Arian Maleki</li></ul> <b>Sharif University Of Technology, Iran</b> B.S. in Electrical Engineering, Communication (2014-2019) Sharif University of Technology <ul style="list-style-type: none"><li>• Cumulative GPA: <b>19.21/20</b> (4/4 US scaling system)</li><li>• Advisors: Dr. Kasra Alishahi, Dr. Amin Aminzadeh Gohari</li><li>• Deans List (Summa Cum Laude GPA)</li></ul>	
RESEARCH EXPERIENCE	2021	N. Ardeshir*, C. Sanford*, D. Hsu. Support Vector Machines and Linear Regression Coincide with Very High-Dimensional Features. In Advances in Neural Information Processing Systems 35.
	2019	Practical and Theoretical Developments of Algorithms in Traffic Assignment and Estimating Origin-Destination Matrix. BA Thesis.
	2017	Statistical Methods for Determining the Effect of Heavy Duty Vehicles on Accident Probability in Tunnels Using Mixed and Generalized Linear Models.
HONORS AND AWARDS	2019-2024	Columbia Dean's Scholarship.
	2014-2018	Valedictorian, EE Department (among 189 students). Sharif University of Technology
	2011-2012	Silver Medal In Iran's National Mathematical Olympiad ( <b>INMO</b> ).
TALKS	2020	Boosting from a Theoretical Point of View. Virtual at Sharif University of Technology
COURSE PROJECTS	2021	CLT for Empirical Transportation Cost In General Dimensions.
	2020	Online Learning Through the Lens of Potential Descent.
	2020	A Review on Deep Exploration Methods in Reinforcement Learning.
	2018	Stat Oil Challenge from Kaggle competition.
	2016	Implementation of Sequential Power Grids Restoration using Linear Programming.
	2014	Implementation of BayesCall Algorithm and Modeling High-Throughput Short-Read Genome Sequencing.

TEACHING EXPERIENCE	Spring	2021	<b>Teaching Assistant</b> , Applied Statistical Computing. UN2102 Undergraduate/Master level.
	Fall	2020	<b>Teaching Assistant</b> , Applied Statistical Methods. UN3105 Undergraduate/Master level.
	Spring	2019	<b>Teaching Assistant</b> , Linear Regression. W4205 Master level.
WORKING EXPERIENCE	Summer	2019	<b>Intern</b> , Tap30, Tehran, Iran I had the opportunity to work for a major transportation company in order to improve their pricing policies by enhancing their demand estimation algorithm. I implemented several bayesian learning algorithms and created a cohesive benchmark.
	Spring	2018	<b>Instructor</b> , Geometry and Probabilistic Methods for INMO. Iran's National Elite Foundation.
SUMMER SCHOOLS	2021		Deep Learning Theory, Princeton Lectures and symposiums on advances in DL theory hosted by Boris Hanin, Misha Belkin, Andrea Montanari, and Dan Roberts.
PROGRAMMING	Python		Experienced and proficient with deep learning packages such as PyTorch, Tensorflow, Theano, etc. Narrow experience with Spark.
	R		Proficient in web scraping, data wrangling, and visualization with packages such as Tidyverse, Tidymodels, etc.
	Matlab		Experienced with Simulink and Systematic modeling. Hardware integration and real-time control.
	Swift		Narrow experience with Tensorflow for Swift and protocol oriented programming
OTHER SKILLS	Languages:		Farsi and a fluent English speaker.
	Hobbies:		Photography, Tennis, Playing Tonbak (persian drum)
	Elective Courses:		In addition to my core skills in mathematics and statistics I have taken graduate level courses in Statistical Mechanics, Convex Optimization, Operational Research, and Dynamical Systems.
REFERENCES			<p><b>Daniel Hsu</b>, Associate Professor of Computer Science, Columbia University, NY djhsu@cs.columbia.edu</p> <p><b>Arian Maleki</b>, Associate Professor of Statistics Department, Columbia University, NY mm4338@columbia.edu</p> <p><b>Kasra Alishahi</b>, Professor of Mathematics Department, Sharif University of Technology, Iran, alishahi@sharif.edu</p> <p><b>Amin Aminzadeh Gohari</b>, Professor of Electrical Engineering Department, Sharif University of Technology, Iran, aminzadeh@sharif.edu</p>