

Michael H. Stanley

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Education

New York University

Candidate for M.S., Center for Data Science

GPA: 4.0/4.0

- Courses: Machine Learning, Inference & Representation, Deep Learning, Geometric Modeling, Big Data
- GRE: 170V/170Q

New York, NY

Expected Graduation May 2021

Duke University

B.S.E., Mechanical Engineering & Materials Science, Economics (double major)

GPA: 3.97/4.0

- *Summa cum laude*, Graduation with Distinction (senior thesis), Phi Beta Kappa, Tau Beta Pi
- Duke Jazz Ensemble, Hoof 'n' Horn musical theater group, table tennis club team
- Duke alumni interviewer for potential, incoming undergraduates

Durham, NC

2003 – 2007

Publications, Presentations, and Patents

Peer-Reviewed Publications

- **Metrics for Aerial, Urban LiDAR Point Clouds.** Michael Stanley and Debra Laefer. [[JoPRS](#)] *ISPRS Journal of Photogrammetry and Remote Sensing*, Vol. 175, May 2021, pp. 268-281, 2020.

Presentations

- **Image Denoising with Generative Adversarial Networks.** Michael Stanley and Chuan Chen, 2020. [[Slides](#)] *NYU Center for Data Science Research Conference*, December 11, 2020.
- **Structured Modeling of LiDAR Point Clouds.** Michael Stanley, 2020. [[Slides](#)] *Machine Learning Symposium*, November 11, 2020, hosted by *Multiscale Machine Learning Sandbox*.

Patents

- **Systems and Methods for Visualizing Threats in Networked Control Systems.** Tim Holl, Michael Stanley, and Russell Bauder. [[Patent](#)] *U.S. Patent No. 10,348,758. Issued July 9, 2019.*

Research Experience

NYU Urban Modeling Group

Researcher

New York, NY

2019-present

- Applying machine learning to aerial LiDAR point clouds. Focus on inverse problems (inpainting missing points), object detection (identifying vehicles for removal), and processing of raw, full waveform LiDAR data
- Predicting and quantifying density and accuracy for modern, multi-flight pass aerial LiDAR datasets
- Part of a multi-university NSF project: Machine Learning for Multi-Disciplinary, Multi-Scale Problems
- Advisor: Debra Laefer, *Professor of Urban Informatics, NYU Center for Urban Science and Progress*

Junior Team Leader

Summer and Fall 2020

- Advising 8 undergraduate researchers in projects related to machine learning and remote sensing in urban environments: object detection in LiDAR, generating artificial training data, learning curves for PointNet++

NYU Center for Data Science

Researcher

New York, NY

2020-present

- Applying generative adversarial networks (GANs) and inverse techniques to denoise and extract 3D structure from 2D electron microscope images
- Studying the potential of adversarial loss to mitigate the shortfalls of the ubiquitous ℓ_2 loss in image processing (denoising, inpainting)
- Advisor: Carlos Fernandez-Granda, *Assistant Professor of Mathematics and Data Science*

Duke Statistical Finance Group

Undergraduate Researcher

Durham, NC

2006-2007

- **High-Frequency Jump Characteristics of Financial Asset Prices**, published in *Duke Journal of Economics*
- Advisors: Tim Bollerslev & George Tauchen, both *Professors of Economics and Finance*

Duke Nano-Optics Lab**Durham, NC***Undergraduate Researcher*

2005-2006

- Materials Science research: Conducted simulations of gold and DNA nanostructures for use as biosensors
- Advisor: Anne Lazarides, *Professor of Material Science*

Professional Experience**Enigma Technologies – Data software and analytics company****New York, NY***Product Manager*

2017 – 2019

- Launched and sold 3 new data products: Linking Platform, Ontology Manager, and Personal Data Classifier
- Sold products to multiple Fortune 500 customers in financial services and pharmaceutical development
- Responsible for product roadmap, business development, user interface design, and demo design
- Contributor to model selection, data source aggregation, recruiting, marketing
- Managed teams of 5-12 software engineers, data scientists, data engineers

Symantec Corporation – International security software company**Mountain View, CA***Senior Product Manager – Internet of Things (IoT)*

2014 – 2016

- Launched 2 IoT security analytics products: Anomaly Detection for Industrial Control Systems and Anomaly Detection for Automotive
- Unsupervised anomaly detection software embedded directly into industrial and automotive systems
- Automotive product launched as #2 most effective in-vehicle security solution based on external testing
- Responsible for customer co-development partnerships, global salesforce education, user interface design

CIVC Partners – Private equity firm investing in business services and financial services**Chicago, IL***Associate*

2010 – 2013

- Participated in all phases of the private equity investment process: market and company financial forecasting, company and industry due diligence, developing KPIs for portfolio companies, debt structuring, deal sourcing, and intermediary relations

Bain & Company – International management consulting firm**Atlanta, GA***Senior Associate Consultant*

2007 – 2010

- Responsible for market analysis, financial modeling, senior client presentations, managing direct reports, and project direction

Academic Service**3DGeoInfo Conference – International conference for researchers in 3D geoinformation****New York, NY***Organizing Committee, 2021 Conference*

2020 – 2021

- Responsible for machine learning conference track and digital marketing and outreach
- Contributor to paper review, conference curriculum, marketing, and fully remote conference experience

Moderator, 2020 Conference

September 2020

- Facilitated 3 days of online networking events during fully remote conference

NYU Center for Data Science**New York, NY***Section Leader: Probability and Statistics*

Fall 2020

- Graduate course for students in Data Science Master's program
- Led weekly recitations for ~15 students, prepared recitation and homework problems, held weekly office hours

Duke University Economics Department**Durham, NC***Teaching Assistant: Portfolio Theory and Optimization*

Spring and Fall 2006

- Undergraduate elective for junior and senior economics majors
- Conducted weekly labs of 10-20 students, graded assignments, advised students designing research projects
- Economics TA Award (highest rating in department by students)

Technical Skills**Languages:** Python, Matlab, R, SQL, Excel**Tools & Libraries:** PyTorch, Tensorflow, Scikit-Learn, CloudCompare, Laspy, GraphQL**Interests****Interests:** CrossFit, running, table tennis, science fiction, college basketball, saxophone, coffee science, mixology