Michael H. Stanley

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Education

New York University **New York, NY**
Candidate for M.S., Center for Data Science Expected Graduation May 2021
GPA: 4.0/4.0

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

Duke University **Durham, NC**
B.S.E., Mechanical Engineering & Materials Science, Economics (double major) 2003 – 2007
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

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 Center for Data Science **New York, NY**
Researcher 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*

NYU Urban Modeling Group **New York, NY**
Researcher 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-fight 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++

Duke Statistical Finance Group **Durham, NC**
Undergraduate Researcher 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 ML 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 labeling process, ontology definition, 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 – Embedded Systems Analytics 2014 – 2016
- Designed 5-year connected vehicle cybersecurity plan for Big 3 automotive client to address cyber threats to advanced driver-assistance systems (ADAS), autonomous vehicles, and telematics components
- Launched 2 embedded 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