Michael H. Stanley

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Education:

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

- Courses: Machine Learning, Inference & Representation, Deep Learning, Math Tools for Data Science
- 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 and Invited Talks:

Publications

- **Metrics for Aerial, Urban LiDAR Point Clouds.** Michael Stanley and Debra Laefer, 2020. [Arxiv] *Tentatively Accepted, ISPRS Journal of Photogrammetry and Remote Sensing.*
- **High Frequency Jump Characteristics of Financial Asset Prices.** Michael Stanley, 2007. [DJoE] *Duke Journal of Economics, Symposium Edition 2007.*

Invited Talks

- **Structured Modeling of LiDAR Point Clouds.** Michael Stanley, 2020. [Slides] *Machine Learning Symposium, November 11, 2020, hosted by Multiscale Machine Learning Sandbox.*

Research Experience:

NYU Center for Data Science — **New York, NY**
Researcher — 2020-present

- Studying the efficacy of adversarial loss for inverse problems and the shortfalls of the ubiquitous ℓ_2 loss
- Initial application: denoising electron microscope images of atomic lattices to better predict 3D structure
- Advisor: Carlos Fernandez-Granda, *Assistant Professor of Mathematics and Data Science*

NYU Urban Modeling Group — **New York, NY**
Researcher — 2019-present

- Defining new metrics for high-density aerial LiDAR composed of multiple flight passes
- Applying machine learning to unstructured point clouds. Focus on inverse problems (inpainting missing points), object detection (identifying vehicles for removal), and transfer learning across datasets (of different geographies, point densities)
- 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 various projects related to machine learning and remote sensing in urban environments: object detection in LiDAR, generating artificial training data, subway ontologies

Duke Statistical Finance Group — **Durham, NC**
Undergraduate Researcher — 2006-2007

- Thesis in Statistical Finance: "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 nanostructures as detectors of specific DNA strands
- Advisor: Anne Lazarides, *Professor of Material Science*

Teaching Experience:

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 Econoimics Department **New York, NY**
Teaching Assistant: Portfolio Theory and Optimization Spring and Fall 2006

- Undergraduate elective for junior and senior in economics majors
- Conducted weekly labs of 10-20 students, graded homework assignments, helped students design research projects and learn proprietary software for modeling portfolio risk
- Economics TA Award (highest rating in department by students)

Professional Experience:

3DGeoInfo Conference **New York, NY**

- Annual, international conference for 200+ researchers and practitioners in 3D geoinformation

Organizing Committee, 2021 Conference 2020-present

- Responsible for advertising and sponsor outreach, contributor to paper request and 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
- Connected attendees with speakers and other attendees for discussions in breakout rooms

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 relationships, 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

Technical Skills:

Languages: Python, Matlab, R, SQL
Tools & Libraries: PyTorch, Tensorflow, Scikit-Learn, CloudCompare, Laspy, GraphQL

Interests:

Interests: CrossFit, running, table tennis, science fiction, college basketball, saxophone, coffee science, wine