Michael H. Stanley

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Professional Experience

Parallel Domain – *Synthetic data for computer vision and autonomous vehicles* San Francisco, CA
Senior Machine Learning Engineer 2021 – present

- Incorporate synthetic data into training of a wide variety of computer vision models to improve on real-world only training. Tasks include 2D/3D object detection, semantic segmentation, optical flow, keypoint detection, sign and trailer classification
- Heavy focus on implementing and improving state of the art domain adaptation techniques
- Identify opportunities for improving Parallel Domain's content and graphics pipeline
- Advise customer computer vision teams on best practices for training models with synthetic data
- Plan and conduct weekly paper discussion, build and maintain research archive
- Communicate results to customers in the autonomous driving space through blog posts, conference workshops, and (future) academic papers
- Worked with Waymo Open Dataset, NuImages, NuScenes, KITTI, Cityscapes, FlyingChairs/Things

Enigma Technologies – *Data software and analytics company* New York, NY
Product Manager 2017 – 2019

- Launched 3 new ML products: Linking Platform, Ontology Manager, and Personal Data Classifier
- Sold products to multiple Fortune 500 customers in financial services and pharmaceuticals
- 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

- Launched 2 embedded security analytics products: Anomaly Detection for Industrial Control Systems and Anomaly Detection for Automotive
- Wrote 5-year connected vehicle cybersecurity plan for Big 3 automotive client to address cyber threats to advanced driver-assistance systems, autonomous vehicles, and telematics components
- Automotive product launched as #2 most effective in-vehicle security solution in external testing

CIVC Partners – *Middle-market private equity firm with $1.3B under management* Chicago, IL
Associate 2010 – 2013

- Participated in all phases of the investment process: market and company financial forecasting, company and industry due diligence, portfolio company oversight, debt structuring, deal sourcing

Bain & Company – *International management consulting firm* Atlanta, GA
Senior Associate Consultant 2007 – 2010

- Responsible for market analysis, financial modeling, client presentations, managing associates

Publications and Patents

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, 2021.*
- **Bandit Modeling of Map Selection in Counter-Strike: Global Offensive**. Guido Petri*, Michael Stanley*, Alec Hon*, Alex Dong*, Peter Xenopoulos, Claudio Silva. [IJCAI AISA]. *AI for Sports Analytics Workshop at International Joint Conference on Artificial Intelligence (IJCAI), 2021.*

- **Assessing LiDAR Training Data Quantities for Classification Models**. Oorja Majgaonkar, Karnik Panchal, Debra Laefer, Michael Stanley, and Yasir Zaki. [ISPRS]. *ISPRS Annals of Photogrammetry, Remote Sensing & Spatial Information Sciences, 2021*.

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 New York, NY
Researcher 2019 – 2021

- Applied machine learning to aerial LiDAR point clouds. Focus on inverse problems (inpainting), object detection (identifying vehicles for removal), and processing full waveform LiDAR data
- Predicted and quantified density and accuracy for modern, multi-pass aerial LiDAR datasets
- Advisor: Debra Laefer, *Prof. of Urban Informatics, NYU Center for Urban Science and Progress*

Team Leader 2020 – 2021

- Advised 8 undergraduate researchers in projects related to machine learning in urban context

NYU Center for Data Science New York, NY
Researcher 2020 – 2021

- Applied generative adversarial networks (GANs) and inverse techniques to denoise and extract 3D structure from 2D electron microscope images
- Studied the potential of adversarial loss to mitigate the shortfalls of the ubiquitous mean squared error loss in image processing (denoising, inpainting)
- Advisor: Carlos Fernandez-Granda, *Associate Prof. of Mathematics and Data Science*

3DGeoInfo Conference – *International conference for 3D geoinformation* New York, NY
Organizing Committee and Reviewer 2020 – 2021

- Responsible for machine learning conference track and digital marketing and outreach
- Reviewed papers pertaining to machine learning, aerial LiDAR

Education

New York University New York, NY
M.S., Data Science 2019 – 2021
GPA: 4.0/4.0, GRE: 170V/170Q

- Teaching Assistant for graduate Probability and Statistics course

Duke University Durham, NC
B.S.E., Mechanical Engineering & Materials Science, Economics 2003 – 2007
GPA: 3.97/4.0

- *Summa cum laude*, Graduation with Distinction (senior thesis), Phi Beta Kappa, Tau Beta Pi
- Teaching assistant for undergraduate Portfolio Theory and Optimization course
- Researcher under Anne Lazarides (mech eng), Tim Bollerslev and George Tauchen (quant econ)
- Duke Jazz Ensemble, Hoof 'n' Horn musical theater group, table tennis club team

Technical Skills and Interests

Languages: Python, Matlab, R, SQL
Libraries: PyTorch, Tensorflow, Lightning, OpenMMlab, Hydra, Detectron2, CloudCompare, Laspy
Interests: CrossFit, running, science fiction, college basketball, saxophone, coffee science, mixology, wine