SAMUEL STANTON

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Accomplished Ph.D. student focused on online decision making, uncertainty quantification, and model interpretability. Driven to push the boundaries of current machine learning capabilities, I study how to design useful and reliable systems for dynamic online environments, specifically in optimal experimental design and automatic system control.

EDUCATION

Ph.D. in Data Science, New York University Expected 2021

Master of Science in Operations Research, Cornell University August 2019
- *Stability, Optimism, and Curiosity in Model-Based Reinforcement Learning*

Bachelor of Science in Mathematics, University of Colorado Denver May 2017
- Graduated with highest honors, *summa cum laude*
- Thesis: *An Algorithm for Redistributing Disproportionate Numbers of Political Asylum Applicants*

SKILLS

Focus Areas
- **Machine learning, deep learning, data science, optimization, control, algorithms**

Languages and Libraries
- **Python, Matlab; PyTorch, Tensorflow**

PROFESSIONAL EXPERIENCE

Machine Learning Research Intern Summer 2019
Prowler.io
- Tasked with investigating the feasibility of developing reinforcement learning agents for finance and logistics. Independently defined an agenda to combine recent deep reinforcement learning algorithms with probabilistic transition models. Implemented prototype in Python and presented initial results. Subsequent work is in the process of being submitted to ICML 2020.

Data Science Intern Summer 2017
United States National Security Agency
- Placed with an internal operations assessment group. Tasked with exploring data regarding analyst work-flow to improve assessment and training procedures. Wrote internal API wrappers and scripts to aggregate, clean, and visualize tool usage data. Presented initial findings, delivered an analyst assessment dashboard for managers. Held a Top Secret security clearance.

PUBLICATIONS AND PRESENTATIONS

International Conference on Machine Learning June 2019

- Generative Modeling & Model-Based Reasoning for Robotics & AI Workshop,
  Model-based Policy Gradients with Entropy Exploration through Sampling

University of Colorado Denver Honors Colloquium May 2017

- *Beyond the Dublin Regulation: Distributing Political Asylum Applicants Dynamically*

CA Research Training Program in Comp. and Applied Math Student Conference August 2016

- *Constant Flux Particle-Laden Viscous Thin Film Flows on an Incline*

OTHER RESEARCH EXPERIENCE

Undergraduate Research Assistant Summer 2016
University of California Los Angeles

- Designed and executed experiments in a fluid dynamics lab to investigate the behavior of viscous particle slurries. Wrote image analysis code in Matlab to collect and process experimental data.

Undergraduate Research Assistant 2016
University of Colorado Denver

- Research in algorithms with desirable scalability and stability properties for indefinite symmetric matrix decomposition in Matlab. Supervised by Dr. Julien Langou.

AWARDS

2018 United States Department of Defense NDSEG Fellowship April 2018

- Awarded in recognition of academic excellence and achievement in STEM.
  Proposed research exploring Bayesian optimization for automatic machine learning.

2017 COMAP MCM - Finalist April 2017

- Awarded for a model of the impact of autonomous vehicles on Seattle traffic congestion.

REFERENCES

Dr. Andrew Wilson (Advisor), Assistant Professor
Courant Institute of Mathematical Sciences, New York University
andrewgw@cims.nyu.edu

Dr. Mark van der Wilk, Senior Machine Learning Researcher
Probabilistic Modeling Research Group, Prowler.io
mark@prowler.io

Dr. Julien Langou, Professor
Department of Mathematical and Statistical Sciences, University of Colorado Denver
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