

Colin Pawlowski

Nference, Inc.
One Main Street, Suite 400
East Arcade, Fourth Floor
Cambridge, MA 02142
Email: colin@nference.net

Education **Massachusetts Institute of Technology**, Cambridge, MA
Ph.D. in Operations Research, June 2019. GPA: 5.0/5.0
Supported by National Science Foundation (NSF) Graduate Research Fellowship.
Advisor: Prof. Dimitris Bertsimas

Yale University, New Haven, CT
B.S. in Mathematics (Intensive), May 2014.
GPA: 3.93/4.00; Magna Cum Laude, Phi Beta Kappa Society.

Work Experience

2020-present **nference**, Cambridge, MA
(Nov-present) *Director & Head of Data Sciences*
Co-leading COVID-19 research efforts at nference and client engagements with biopharma partners. Directly supervising a team of three data scientists and one research scientist.

2020 **nference**, Cambridge, MA
(Jul-Nov) *Head of Data Sciences*
Co-led COVID-19 research efforts at nference. Leveraged nferX AI platform to conduct real-world evidence studies on electronic health record data from the Mayo Clinic. First author on four COVID-19 publications, including one featured in the NYTimes.

2020 **nference**, Cambridge, MA
(Jan-Jun) *Data Science Partnerships Lead*
Contributed to the development of DeepModelBuilder, an nferX NLP software platform. Led client engagements to enable use of the nferX AI platform in research and product development-related projects at life sciences organizations.

2019 **nference**, Cambridge, MA
(Jul-Dec) *Translational Scientist*
Collaborated with a clinical scientist to conceptualize and train NLP models to extract information from unstructured text. Built an R wrapper package for the nferX API.

2017 **Wealthfront**, Redwood City, CA
(Summer) *Research Intern*
Built a research platform to evaluate financial planning strategies for retirement for an automated investment services firm.

2014 **Ancera**, Branford, CT
(Summer) *Analytics Intern*
Developed data collection and analytics tools for biotech startup specializing in rapid microbial testing for food producers.

Research Experience

2014–2019 **MIT Operations Research Center**, Cambridge, MA
Research Assistant
Advisor: Dimitris Bertsimas
Developed fast machine learning algorithms to perform statistical inference on noisy data and impute missing values. Worked on applications in personalized medicine using large-scale EHR and genomic data.

2013 **Mount Holyoke College REU**, South Hadley, MA
(Summer) *Undergraduate Researcher*
Advisor: Dylan Shepardson
Researched mathematical modeling and epidemiology. Programmed a population-level model for tuberculosis in the USA, with cost analysis for several intervention strategies.

2011-2012 **NASA Flight Opportunities Program**, Houston, TX
Microgravity Research Team Leader
Advisor: Andrew Szymkowiak
Led a team of six students; built a prototype of a 3-D cell culture apparatus and tested it aboard NASA's zero-gravity plane.

Teaching Experience

2015-2018 **MIT Sloan School of Management**, Cambridge, MA
Teaching Assistant

(Fall 2018) 15.095: Machine Learning via a Modern Optimization Lens (Master's)

(Spring 2018) 15.097: Machine Learning via a Modern Optimization Lens (PhD)

(Spring 2017) 15.071: The Analytics Edge (MBA elective)

(Fall 2015) 15.060: Data, Models, and Decisions (MBA core)

Selected Publications

"Pre-existing conditions are associated with COVID patients' hospitalization, despite confirmed clearance of SARS-CoV-2 virus", with A.J. Venkatakrishnan, E. Ramudu, C. Kirkup, A. Puranik, N. Kayal, G. Berner, A. Anand, R. Barve, J. O'Horo, A.D. Badley, V. Soundararajan; *EClinicalMedicine*, 2021.

"Healthcare disparities among anticoagulation therapies for severe COVID-19 patients in the multi-site VIRUS registry", with C. Kirkup, A. Puranik, I. Conrad, J. O'Horo, D. Goma, V. Banner-Goodspeed, J. Mosier, I. Zabolotskikh, S. Daugherty, M. Bernstein, H. Zaren, V. Bansal, B. Pickering, A.D. Badley, R. Kashyap, A.J. Venkatakrishnan, V. Soundararajan; *Journal of Medical Virology*, 2021.

“Enoxaparin is associated with lower rates of mortality than unfractionated Heparin in hospitalized COVID-19 patients”, with A.J. Venkatakrishnan, C. Kirkup, G. Berner, A. Puranik, J. O'Horo, A.D. Badley, V. Soundararajan; *EClinicalMedicine*, 2021.

“Exploratory analysis of immunization records highlights decreased SARS-CoV-2 rates in individuals with recent non-COVID-19 vaccinations”, with A. Puranik, H. Bandi, A.J. Venkatakrishnan, V. Agarwal, R. Kennedy, J. O'Horo, G. Gores, A. Williams, J. Halamka, A.D. Badley, V. Soundararajan; *Scientific Reports*, 2021.

“Inference from longitudinal laboratory tests characterizes temporal evolution of COVID-19-associated coagulopathy (CAC)”; with T. Wagner, A. Puranik, K. Murugadoss, L. Loscalzo, A.J. Venkatakrishnan, R. Pruthi, D. Houghton, J. O'Horo, W. Morice II, A. Williams, G. Gores, J. Halamka, A.D. Badley, E. Barnathan, H. Makimura, N. Khan, V. Soundararajan; *Elife*, 2020.

“Tensor Completion with Noisy Side Information”, with D. Bertsimas. Submitted, 2020.

“Imputation of Clinical Covariates in Time Series”, with D. Bertsimas and A. Orfanoudaki; *Machine Learning*, 2020.

“From Predictive Methods to Missing Data Imputation: An Optimization Approach”, with D. Bertsimas and Y. Zhuo; *JMLR*, 2018.

“Applied Informatics Decision Support Tool for Mortality Predictions in Patients with Cancer”, with D. Bertsimas, J. Dunn, A. Weinstein, Y. Zhuo, E. Chen, and A. Elfiky; *JCO Clinical Cancer Informatics*, 2018.

“Robust Classification”, with D. Bertsimas, J. Dunn, and Y. Zhuo; *INFORMS Journal on Optimization*, 2018.

Honors and Awards

2016	athenahealth Hackathon Grand Prize
2015	NSF Graduate Fellowship
2012	Richter Summer Fellowship
2011	NASA Flight Opportunities Program, national research grant
2011	Connecticut Space Grant Consortium Project Grant

Skills and Activities

Programming: R, Julia, Python

Citizenship Citizen of United States of America