

Nathan R Burton

Indiana University  
Bloomington, IN

nathan.r.burton@gmail.com  
(435) 232 4028

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### Academic Research Interests

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Financial markets, Information theory, Stochastic processes, Dynamical systems, Nonparametric statistics

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### Education

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MA, Mathematics; Indiana University Bloomington; 2021 (expected)

Emphasis: Probability, Applied models;

M.Bus, Finance (en route to PhD); Kelley School of Business, Indiana University; 2019

First year paper: A short survey of Order Books and Price Discovery

PhD preliminary exams passed: Asset pricing theory, Empirical asset pricing, Corporate finance theory

MS, Economics; Huntsman School of Business, Utah State University; 2017

Thesis: The Efficiency of Liquidity Resiliency

MS, Financial Economics; Huntsman School of Business, Utah State University; 2016

Thesis: Reanalyzing the Political Stability of Britain's Democratization

BA History, BS Law and Constitutional Studies; Utah State University; 2012

Senior paper: Modern analysis of genocide during Saxon invasions of Britain

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### Experience

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Associate Instructor, Mathematics, 2020

Indiana University, Bloomington, IN

Freelance Financial Analyst (models, statistics, coding, etc.); 2018-2019

Bloomington, IN

Research Assistant, Finance; 2017-2019

IU Kelley, Bloomington, IN

Teaching Assistant, Economics/Finance; 2014-2016

USU Huntsman, Logan, UT

Business Intelligence/Database Management; 2014

Journal Technologies, Logan, UT

High School Chemistry Teacher; 2013-2014

YUHSD, Yuma, AZ

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### Projects in Progress

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A computationally efficient, accurate method for estimating Shannon entropy of securities

A signal processing model of information flow in markets

A modern model and empirical technique for CAPM

Measuring the information in Price Discovery (academic paper)  
*with Jeff McMullin*

Determining the flow of information between related securities (academic paper)  
*with Jeff McMullin*

What is the Long-run, Big Picture of Equity Price Discovery? (academic paper)  
*with Craig Holden and Jayoung Nam*

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### **Programming Languages**

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Python, R, SAS, C++, SQL

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### **Random Facts**

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I love mountaineering, mountain biking, alpine skiing, backcountry skiing, trail running, etc., i.e. all things mountains