

TRAVIS MARTIN

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Education

University of Michigan · PhD Computer Science & Engineering 2016
3.90 GPA

Rice University · BS Computer Science, BA Mathematics 2011
3.70 GPA, 3.81 Major GPA

Teaching Experience

Assistant Professor, Lecturer · University of Utah 2020–Present

Private Computer Science Tutor · Freelance 2013–2015

Graduate Student Instructor · University of Michigan Fall 2011; Winter 2012

Course Creator and Instructor: Intro to Information Theory · Rice University Spring 2011

Teaching Assistant · Rice University 2009

Service

Faculty Mentor and Coach, Competitive Coding Club, UofU (2021–Present)

Attendee and Presenter, CS Ed Seminar, UofU (2021–Present)

Designer, Undergraduate Inclusivity Modules, UofU KSoC (2022–Present)

Head of Transfer Requests, UofU KSoC (2022–Present)

Diversity Committee member NCWIT Liaison, UofU KSoC (2022–Present)

Member, Lecturing Faculty Hiring Committee, UofU KSoC (2022–2023)

Updated the CS and DS undergraduate handbooks, UofU KSoC (2021–2022)

Member, Scholarship Committee, UofU KSoC (2021)

Curriculum Designer, Ethics in Computing Class, UofU (2022–2023)

Member, ACM SigCSE (2021)

Classes Taught

CS 1410, Intro to Object Oriented Programming, UofU (Spring 2021, Spring 2023, Fall 2023, Spring 2024)

CS 3090, Ethics in Computing, UofU (Spring 2023, Spring 2024)

CS 3500, Software Practice I, UofU (Fall 2022, Fall 2023)

CS 4150, Algorithms, UofU (Fall 2021, Fall 2022)

CS 4000, Senior Design, UofU (Fall 2021)

Committee member of: SoC PhD (Defense Date TBD), SoC PhD (2022), SoC Masters (2022), Professional Masters in DS (2022)

Industry and Research Experience

Senior Software Engineer: Data Engineering · Recursion Pharmaceuticals 2019–2020

- Built and deployed system for indexing 2.6 million images per week.

Senior Software Engineer: Research & Machine Intelligence · Google Inc. 2016–2019

- 1st engineer and initial prototyper for a smart text selection feature for Android Pie.
- Helped guide this feature from prototype, to being announced at Google IO,¹ to

¹<https://www.youtube.com/watch?v=9Ac61eZIGJw&t=642>

being a shipped feature in Android P, with millions of active users. This successful launch led to our team expanding from 3 engineers to 20+ engineers.

- Tech lead for smart selection models: designed and lead a team of 3 engineers in the building of models, verifying their quality, and shipping them to devices. Coordinated and planned with partner teams.

Graduate Researcher: Network Theory & Strategic Reasoning · U Michigan 2011–2016

- Performed data analysis and visualization of an online dating dataset.
- Designed and implemented a message passing inference algorithm for noisy networks.
- Created and evaluated a new spectral graph centrality measure, tested with graph and matrix calculations.
- Derived novel insights from academic coauthorship-citation network.
- Solved for the behavior of a model governing small-world-like disease spreading and tested the model.
- Calculated the impact of agent behavior on product adoption.

Python Programmer · Freelance 2014, 2016

- Coded an art project: withervanes.com. My Python code controlled a motorized weather vane which reacted to tweets and world news.

Research Intern, Computational Social Science · Microsoft Research Summer 2015

- Designed model predicting retweets on large (1.47B tweets) dataset.
- Used Hadoop and Cosmos to compute features, perform topic modeling and train and test a random forest model for prediction.

Undergrad Researcher: Bioinformatics Group, Acumen Group · Rice University 2009–2011

Software Development Engineer in Test Intern · Microsoft Summer 2010

- Wrote C# scripts used by all Outlook testers to check validity of their automation.

Risk Analyst · VCS Capital Management 2009–2010

Rice Solar Decathlon Engineering Group · Rice University 2009–2010

Web Designer, Tutor · Ethos Prep, LLC 2007–2009

Software Engineering Intern · EControls Incorporated Summers 2006–2008

Skills

Expertise · ML model building/experimentation/evaluation, Machine learning, Android development, Network science, Graph algorithms, Bayesian inference, Game theory, Topic modeling.

Programming Languages · Java, Python, C, C++, C#, MapReduce, Dart, Javascript, Git, LaTeX.

Honors

UM CSE Honors Competition Finalist (2013)

STIET Fellowship (2012–2013)

CSE Graduate Student Instructor Award (2012)

Rice University Comp. Sci. Club and CSters Schlumberger Scholarship Recipient (2009)

Martin Marietta Materials Scholarship Recipient (2007–2011)

Eagle Scout, Boy Scouts of America (2006)

Publications

Exploring limits to prediction in complex social systems: Predicting cascade size on Twitter, Travis Martin, Jake M. Hofman, Amit Sharma, Ashton Anderson, Duncan J. Watts, World Wide Web (2016)

Structural inference for uncertain networks, Travis Martin, Brian Ball, M. E. J. Newman, Phys. Rev. E (2015)

Identification of core-periphery structure in networks, Xiao Zhang, Travis Martin, M. E. J. Newman, Phys. Rev. E, 91, 032803 (2015)

Equitable random graphs, M. E. J. Newman, Travis Martin, Phys. Rev. E, 90, 052824 (2014)

Localization and centrality in complex networks, Travis Martin, Xiao Zhang, M. E. J. Newman, Phys. Rev. E, 90, 052808 (2014)

Characterizing strategic cascades on networks, Travis Martin, Grant Schoenebeck, Michael P. Wellman, Electronic Commerce (2014)

Coauthorship and citation in scientific publishing, Travis Martin, Brian Ball, Brian Karrer, M. E. J. Newman, Phys. Rev. E, 88, 012814 (2013)

The small-world effect is a modern phenomenon, Seth A. Marvel, Travis Martin, Charles R. Doering, David Lesseau, M. E. J. Newman, arXiv:1310.2636 (2013)