Christopher Henson

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Education

Drexel University — expected May 2028
PhD, Computer Science

The University of Texas at Austin — May 2020
Master of Science in Business Analytics

Texas A&M University — May 2018
Bachelor of Arts, Mathematics (minor in Cybersecurity)

Work Experience

Assistant VP, Financial Engineering — 2020 - 2023
Bank of America, Quantitative Finance — *Atlanta, GA*
- Developed and maintained Quantitative Finance's valuation tools for an $800BB fixed income portfolio
- Created an automated daily calculation and monitoring system for attribution of bank-wide changes in liquidity ratios
- Redesigned model and code for yield curve PCA and interest rate scenarios for MTM instruments
- Designed custom CI/CD for integrating in-house package builds and web application deployments and dependencies
- Developed Azure pipelines for R, Perl, and Python for automatic unit testing, code coverage, and documentation
- Created an API wrapper and automated templating system for Ongoing Monitoring Reports of model risk metrics

Masters Capstone — Spring 2020
Walmart — *Austin, TX*
- Programmatically compiled publicly available reports (SEC filings, Proxy Statements, Earnings call transcripts, etc.)
- Utilized NLP and time series methodologies to model trends in topics across competitors for a ten-year period
- Developed a regression model that connected topic modeling results and financial metrics for Walmart and competitors

Supplemental Instructor — Fall 2017 - Spring 2018
Texas A&M University — *College Station, TX*
- Instructor for *Calculus for Biological Sciences*, assigned to the "BioFirst" learning community for freshman first-generation students in the biology department

Research Experience

Sessions Coordinator, Student Research Week — 2016-2017
Graduate and Professional Student Council, Texas A&M University — *College Station, TX*
- Managed/scheduled over 100 volunteers, 750 competitors, and 200 judges. Designed grading rubrics to distribute over $25,000 in prize money

Generalized Summation Methods for Divergent Series — Spring 2017
Undergraduate Research Seminar, Texas A&M University — *College Station, TX*
- Researched assigning values to divergent series and applications to physics and microelectromechanical systems
- Funding provided by the National Science Foundation to present at the 2017 Southeastern Undergraduate Mathematics Workshop

A Historical Survey of French Number Theory — Fall 2016
Undergraduate Research, Texas A&M University — *College Station, TX*
- Translated 18th-19th century mathematics and analyzed their significance in the development of number theory
- Funding provided by the Texas A&M Department of Mathematics to present at a Mathematical Association of America conference

Techinical Skills

Proof Assistants: Coq, Lean, Agda
Programming Languages: Rust, OCaml, Haskell, Racket, Elm, APL, Perl, Python, R, SQL
Mathematics: Complex/Real Analysis, Number Theory, Linear Algebra, Cryptography
Statistics/Machine Learning: Optimization, PCA, Clustering/Classification, Neural Nets, Bayesian Estimation
Quantitative Finance: Yield Curve PCA, Analysis of MBS and MSR, Monte Carlo Pricing Methods
Miscellaneous Technologies: Linux administration, Azure administration, Git, Jenkins

Conferences/Presentations

Student Research Week   March 2020 *(canceled due to COVID-19)*
Texas A&M University   *College Station, TX*
- Invited panelist for "Importance of Programming in Research"

College Advising Corps Forum West   December 2018
College Advising Corps   *Los Angles, CA*
- Led a workshop *Data Driven College Advising* on utilizing technology as a college adviser

Virginia Military Institute Leadership and Ethics Conference   October 2018
VMI Center for Leadership and Ethics   *Los Angles, CA*
- Representative of Texas A&M at conference attended by the six senior military colleges and military academies

Southeastern Undergraduate Mathematics Workshop   August 2017
Georgia Institute of Technology   *Atlanta, GA*
- Presented research advised by Dr. David Larson, funding provided by the National Science Foundation

MathFest   August 2017
Mathematical Association of America   *Chicago, IL*
- Presented research advised by Dr. Harold Boas, funding provided by the Texas A&M Department of Mathematics

National Cyber Summit   June 2017
Cyber Cup Challenge   *Huntsville, AL*
- Participant in Cyber Cup Challenge (CTF competition), travel funded by the Texas A&M Cybersecurity Center

Awards & Honors

McCombs School of Business Academic Excellence Award   Spring 2020
The University of Texas at Austin
- One student selected from the graduating cohort of ∼150 students

Humana-Mays Healthcare Analytics Case Competition   Fall 2019
Humana Inc. and Mays Business School
- Finalist team, ranking top five out of over 400 submissions from graduate students nationwide
- Built an ensemble gradient boosting/random forest model to identify patients at risk for opioid addiction with .92 AUC-ROC

Innovate Against Zika, $200 prize winner   Summer 2016
Department of Engineering, Texas A&M University
- Provided statistical analysis and modeling of a 3D printed device to disperse larvicide to combat mosquitos that carry Zika virus.

Academic Nonprofit/Volunteer Work

College Adviser   July 2018 – June 2019
College Advising Corps   *Houston, TX*
- Direct advisor to over 700 high school seniors, primarily from low-income and underrepresented backgrounds
- Designed a website and database to automatically generate college recommendations for high school seniors
- Lead a workshop at a national conference (approximately 1000 attendees) on utilizing technology in college admissions

Application Reviewer   October 2018 – January 2019
Jack Kent Cooke Foundation   *Houston, TX*
- Reviewed applications for the Cooke Foundation's College Scholarship Program in committee-based evaluation of candidates

New Student Conference Presenter   Summer 2017
New Student & Family Programs - Texas A&M University   *College Station, TX*
- As part of the "First Generation Partners in Success" program, presented general student life and academic information to parents of incoming students