

Tyler Edward Bagwell

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EDUCATION

Rice University, Houston, Texas, USA

Aug. 2022 to May 2027 (Anticipated)

Ph.D. in Statistics (in progress)

Advisor: Dr. Frederi Viens

Zhejiang University, Hangzhou, Zhejiang, China

Jun. 2020

M.Sc. in Plasma Physics

Advisor: Dr. Zhiwei Ma (马志为博士)

Arizona State University, Tempe, Arizona, USA

Aug. 2017

B.Sc. in Physics

ASU Chinese Language Flagship Global Professional Certification

PROFESSIONAL EXPERIENCE

Statistical Consultant, Land Core (Nonprofit), Grass Valley, CA, USA

May 2023 to Present

- Provide statistical and actuarial consultation to internal policy team based on in-house agricultural risk modeling.
- Building a state-of-the-art Bayesian spatial-temporal model in R/Python to estimate both the short- and long-term risk-mitigating effects of soil healthy practices on U.S. soy and maize yields under varying weather and climate scenarios.

Market and User Analytics Researcher, ByteDance, Beijing, China

Nov. 2020 – Aug. 2022

- Write and compile mobile gaming market reports with survey, third-party, and unconventional data for internal teams analyzing key market characteristics, market potential, user segmentation, and product preferences using factor, cluster, regression, conjoint, and ensemble statistical analyses.
- Noteworthy Data Project: Built a Bayesian time series model and dashboard in Python to predict U.S. entertainment market and mobile gaming market trends using Google Trends data, third-party data sets, and scraped data from popular video game and entertainment review websites to estimate market sizes of top mobile gaming genres.

Graduate Researcher, Institute for Fusion Theory and Simulation, Zhejiang University

Mar. 2018 – Jul. 2020

▪ Research Achievements:

- Built a two-fluid plasma code in FORTRAN to simulate the evolution of coronal arcades driven by footpoint shearing and giving rise to fast MHD-like shock waves impelled by the breakdown of charge neutrality.
- Contributed the first evidence of MHD-like shock waves impelled by local breakdown of charge neutrality at the front of coronal magnetic arcades driven by footpoint shearing using two-fluid simulations.

Operations Intern, Super Effective [Tech Startup], Beijing, China

Jul. 2018 – Sep. 2018

- Compiled a report regarding prominent impact VC investment firms and provided consultation to the CEO in preparation for Super Effective's Series A funding round.
- Improved the operational performance of a rapidly evolving mobile software startup by optimizing routine procedures and restructuring many facets of company organization, including recruiting and inter-employee communication.

Physics and Laboratory Teaching Assistant, ASU Department of Physics, Tempe, AZ, USA

Jan. 2015 – May 2016

- Provided both laboratory and classroom instruction to Barrett, The Honors College students on introductory university physics concepts, experimental techniques, methods of data analysis, and error propagation in experimental data.

ACADEMIC PUBLICATIONS

1. T.E. Bagwell and Z.W. Ma (2020), *Shock and Discontinuity Formation in the Front of an Expanding Coronal Magnetic Arcade in Two-fluid Simulations*, The Astrophysical Journal [898, 167](#)
2. H.W. Zhang, X. Lin, Z.W. Ma, W. Zhang, and T.E. Bagwell (2021), *Systematic Simulation Studies on the Penetration of Resonant Magnetic Perturbations in EAST*, Plasma Phys. Control. Fusion [63, 035011](#)

TECHNICAL SKILLS

Computer Proficiencies: *Python, R, Julia, PyTorch, FORTRAN 90, SPSS, Mathematica, SQL, MATLAB, TensorFlow*

Language Proficiencies:

- *English*, Native Proficiency
 - *Mandarin Chinese*, Full Professional Working Proficiency
 - *Japanese*, Intermediate Proficiency
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STUDY ABROAD EXPERIENCE

- *Chinese Language Flagship Capstone Program*, Beijing Union University, Beijing, China Aug. 2016 – Jun. 2017
 - *ACC and Hamilton College Field Studies Program*, Minzu University of China, Beijing, China Jun. 2015 – Aug. 2015
 - Conducted a field study as 1 of 12 *Fulbright-Hays G.P.A. Grant* recipients on the current education system in rural China while educating rural “left-behind” children in the provinces of Anhui and Sichuan and lectured at Beijing Normal University on US primary school science education.
 - *CIEE Shanghai Summer Chinese Language Program*, East China Normal University, Shanghai, China Jun. 2014 – Aug. 2014
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SCHOLARSHIPS & AWARDS

<i>Chinese Government Scholarship for International Students, CSC</i>	Fall 2017
<i>Excelling International Student Scholarship, Beijing Union University</i>	Summer 2016
<i>Outstanding Student Award, ASU Chinese Language Flagship</i>	Spring 2016
<i>Flagship Capstone Scholarship, ASU Chinese Language Flagship & National Security Education Program</i>	Spring 2016
<i>College of Liberal Arts and Sciences Dean's Scholarship, Arizona State University</i>	Spring 2016
<i>Fulbright-Hays G.P.A. Grant (shared among 12 awardees), Hamilton College & U.S. Department of Education</i>	Spring 2015
<i>GAIN Grant, Council on International Educational Exchange (CIEE)</i>	Spring 2014
<i>College of Liberal Arts and Sciences Dean's Scholarship, Arizona State University</i>	Spring 2016
<i>New American University Provost Scholarship, Arizona State University</i>	Fall 2011

TEACHING EXPERIENCE

STAT411 <i>Advanced Statistical Methods</i> , Teaching Assistant, Rice University	Spring 2024
STAT518 <i>Probability</i> , Teaching Assistant, Rice University	Fall 2023
STAT410 <i>Linear Regression</i> , Laboratory Instructor, Rice University	Spring 2023
PHY150 <i>Honors Physics I</i> , Teaching Assistant and Laboratory Instructor, Arizona State University	Spring 2016
PHY150 <i>General Physics Laboratory</i> , Laboratory Instructor, Arizona State University	Spring 2016
PHY151 <i>Honors Physics II</i> , Teaching Assistant and Laboratory Instructor, Arizona State University	Fall 2015
PHY113 <i>General Physics Laboratory</i> , Laboratory Instructor, Arizona State University	Fall 2015
PHY150 <i>Honors Physics I</i> , Teaching Assistant and Laboratory Instructor, Arizona State University	Spring 2015

VOLUNTEERING

<i>Kù-er (Queer) LGBT Society Volunteer</i> , Zhejiang University	2018-2020
<i>Chinese Language Flagship Volunteer Ambassador</i> , Arizona State University	2015-2016
<i>STARR Noyce Volunteer</i> , Arizona Science Center	2013-2014
<i>American English and Culture Program (AECF) Volunteer</i> , Arizona State University	2013
<i>Volunteer Violist</i> , West Valley Youth Orchestra	2010-2012

CERTIFICATIONS

<i>HSK (汉语水平考试) Chinese Proficiency Test</i> , Level VI Proficiency	2019
<i>ACTFL OPI (Mandarin Chinese)</i> , Advanced High Proficiency	2017
<i>The Language Flagship Certified Global Professional</i>	2017